

MATH.  
GR. 4  
BASIC

# Houghton Mifflin Mathematics 4





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# Houghton Mifflin Mathematics 4

Richard Holmes  
Carol Poce  
Irvin K. Burbank  
Doug Super

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# Houghton Mifflin Mathematics

## Program Authors

Irvin K. Burbank  
Florine Koko Carlson  
Richard Holmes  
Heather J. Kelleher  
Carol Poce  
Doug Super

## Consultants

Gary Hatcher  
Bill Hoppins  
Judith A. Threadgill  
M.E. Williamson

## Illustrations

Heather Collins  
Masha Ilik  
Vladyana Krykorka  
Bob Seguin

## Editorial Development

David Hamilton, *Executive Editor*  
Helen Nolan, *Project Editor*  
Fran Seidenberg, *Project Editor*

## Art Director and Designer

Tom Sankey

## Assembly and Technical Art

Dave Hunter

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# Authors

**Richard Holmes** is a former mathematics specialist with the Calgary Board of Education. Mr. Holmes received a B.Ed. degree from the University of Alberta and an M.S. in education from the University of Illinois.

**Carol Poce** is an elementary mathematics consulting teacher with the York Board of Education in Ontario. Ms. Poce has a B.A. from York University and is an experienced classroom teacher.

**Irvin K. Burbank** is an associate professor of elementary mathematics education and curriculum development at the University of Victoria. Dr. Burbank has taught in the Alberta school system and has served as a mathematics consultant.

**Doug Super** is mathematics coordinator with the Richmond School Board in British Columbia. Mr. Super has a masters degree in mathematics from Simon Fraser University and is an experienced elementary teacher.

## Consultants

**Bill Hoppins** is principal of John Wilson Elementary School in Innisfail, Alberta. Mr. Hoppins' experience includes teaching elementary and junior high mathematics, working with teacher groups to create mathematics materials, and piloting new programs.

**Judith A. Threadgill** is a community college mathematics teacher. Dr. Threadgill's experience includes teaching and supervising elementary mathematics education students at the University of Calgary.

**M.E. Williamson** is a teacher with the Vancouver School Board. Ms. Williamson is a University of British Columbia graduate in education.

# CONTENTS

<b>UNIT 1</b>	<b>Numerals to 999 999</b> Place value to six digits, money, rounding, ordinals, Roman numerals, and problem solving.	<b>1</b>
<b>UNIT 2</b>	<b>Addition and Subtraction I</b> Addition and subtraction basic facts, addition with and without regrouping, subtraction with and without regrouping, Celsius degrees, and problem solving.	<b>20</b>
<b>UNIT 3</b>	<b>Addition and Subtraction II</b> Addition and subtraction up to four digits with regrouping, rounding and estimation, and problem solving.	<b>44</b>
<b>UNIT 4</b>	<b>Measurement</b> Length, perimeter, mass, money, capacity, and problem solving.	<b>68</b>
<b>UNIT 5</b>	<b>Multiplication Facts</b> Multiplication facts to $10 \times 10$ and problem solving.	<b>92</b>
<b>UNIT 6</b>	<b>Division Facts</b> Division facts to $100 \div 10$ and problem solving.	<b>116</b>
<b>UNIT 7</b>	<b>Fractions and Decimals</b> Fractions, decimal notation for tenths, decimetres, addition and subtraction of decimals, and problem solving.	<b>140</b>



<b>UNIT 8</b>	<b>Multiplication</b> Multiplication up to three digits by one digit, estimation, and problem solving.	<b>164</b>
<b>UNIT 9</b>	<b>Division</b> Division up to three digits by one digit with two-digit quotients, remainders, and problem solving.	<b>188</b>
<b>UNIT 10</b>	<b>Measurement</b> Area, volume, averages, ratios, maps and scale drawings, time, and problem solving.	<b>212</b>
<b>UNIT 11</b>	<b>Multiplication and Division</b> Multiplication up to three digits by two digits, division up to three digits by one digit with three digit quotients, and problem solving.	<b>236</b>
<b>UNIT 12</b>	<b>Geometry</b> Solid shapes, plane shapes, slides, turns, and flips.	<b>260</b>
<b>UNIT 13</b>	<b>Graphs</b> Charts, pictographs, bar graphs, circle graphs, coordinates, and problem solving.	<b>284</b>
<b>UNIT 14</b>	<b>Decimals</b> Hundredths, addition and subtraction of decimals and fractions, changing fractions to decimals, and problem solving.	<b>308</b>
	<b>Cumulative Tests</b>	<b>328</b>
	<b>Extra Practice</b>	<b>336</b>
	<b>Index</b>	<b>344</b>



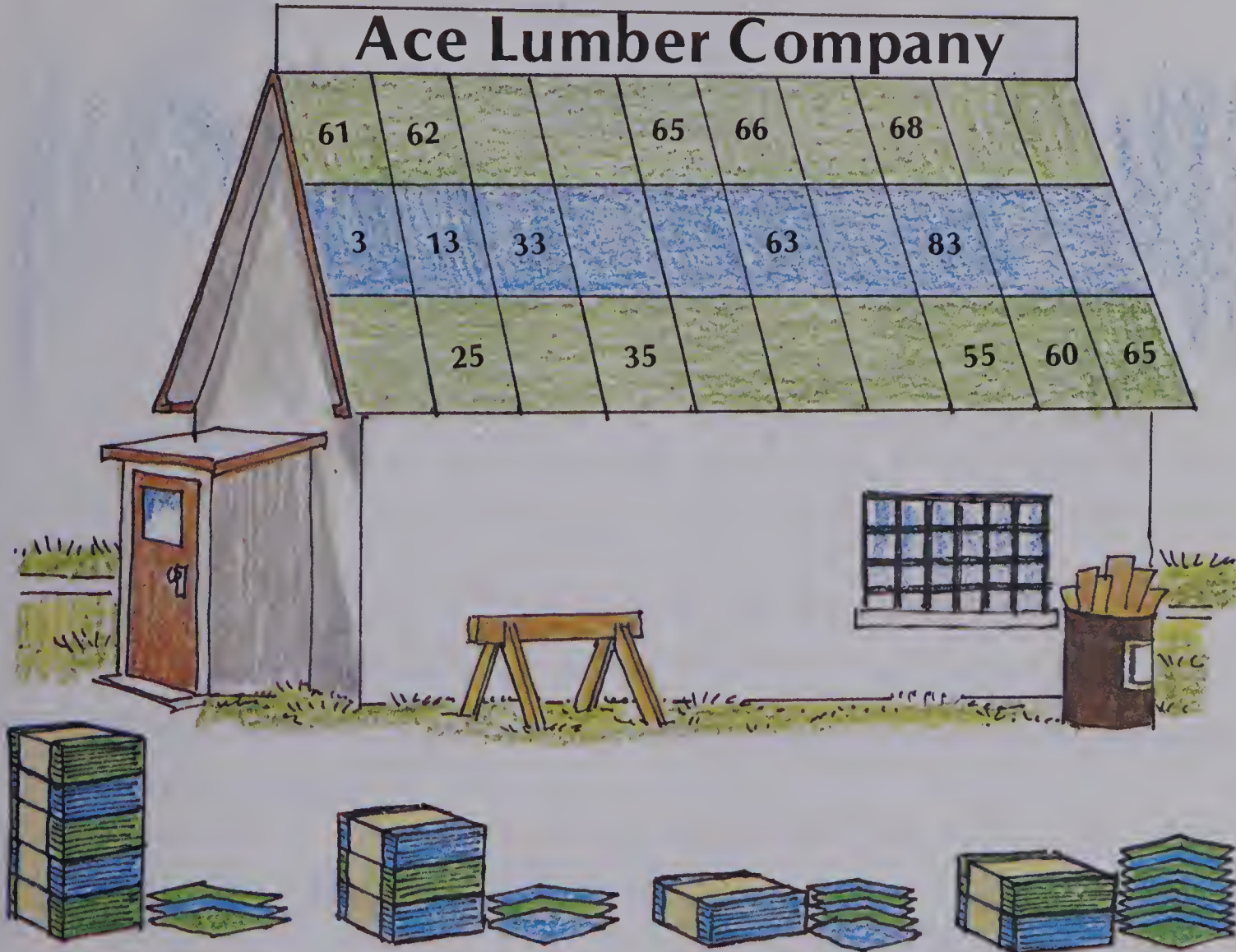
# UNIT 1

## NUMERALS TO 999 999

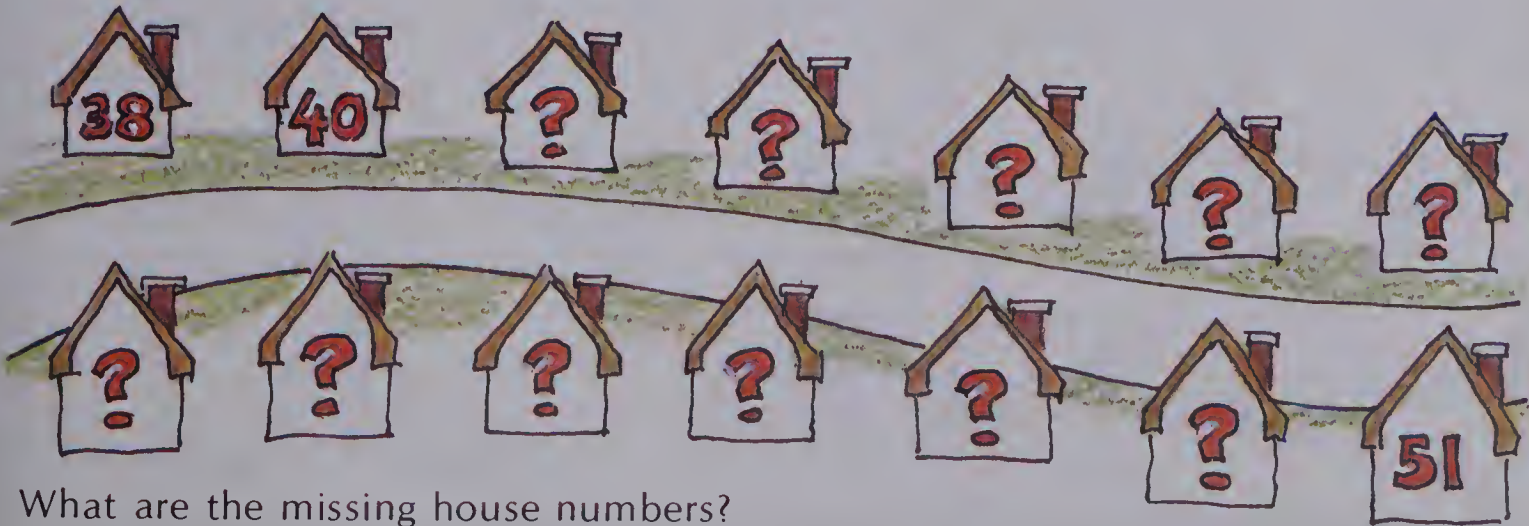




Copy and complete the number patterns on the roof.

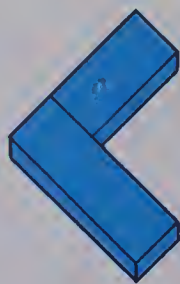


The shingles are bundled in tens.  
How many shingles are in each pile?



What are the missing house numbers?

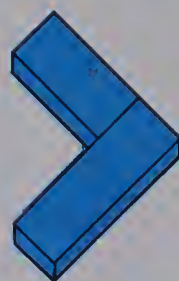
# Comparing



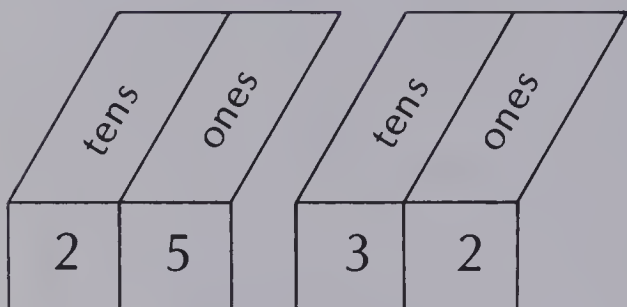
Less than



Equal to



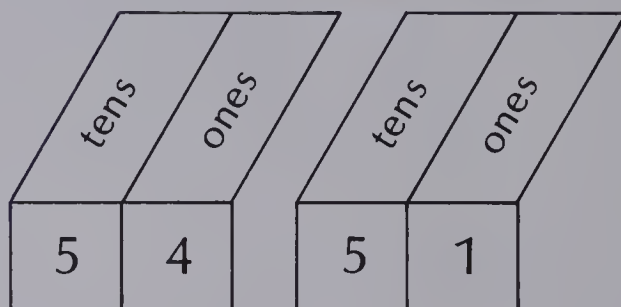
Greater than



Compare the tens.

$$25 < 32$$

because  $20 < 30$ .



Compare the tens.

If the tens are the same,  
compare the ones.

$$54 > 51$$

because  $4 > 1$ .

## EXERCISES

Which has more tens?

1. 40 or 60
2. 31 or 71
3. 92 or 83
4. 51 or 59

Which has more ones?

5. 15 or 18
6. 22 or 21
7. 76 or 77
8. 92 or 92

Copy and complete.

Put  $<$ ,  $=$ , or  $>$  in place of the ■ to make a true statement.

9.  $16 \blacksquare 27$
10.  $45 \blacksquare 31$
11.  $19 \blacksquare 19$
12.  $87 \blacksquare 78$
13.  $60 \blacksquare 60$
14.  $56 \blacksquare 59$
15.  $16 \blacksquare 9$
16.  $84 \blacksquare 80$
17.  $99 \blacksquare 99$
18.  $60 \blacksquare 70$
19.  $8 \blacksquare 31$
20.  $25 \blacksquare 24$



# PRACTICE

Make a true number sentence.

Write the letters of all the answers in order, to discover a message.

- |    |        |    |    |        |    |    |        |    |
|----|--------|----|----|--------|----|----|--------|----|
| 1. | 88     | A  | 2. | 33     | X  | 3. | 15     | I  |
|    | 89 < ■ | 89 |    | 43 > ■ | 43 |    | 18 = ■ | 18 |
|    |        | 90 |    |        | 53 |    |        | 21 |
|    |        |    |    |        |    |    |        | M  |
| 4. | 45     | S  | 5. | 8      | L  | 6. | 65     | A  |
|    | 54 < ■ | 54 |    | 8 = ■  | 18 |    | 71 < ■ | 70 |
|    |        | 55 |    |        | 80 |    |        | 75 |
|    |        |    |    |        |    |    |        | L  |
| 7. | 40     | E  | 8. | 61     | M  | 9. | 15     | !  |
|    | 50 > ■ | 50 |    | 62 > ■ | 62 |    | 21 < ■ | 20 |
|    |        | 60 |    |        | 63 |    |        | 25 |
|    |        | O  |    |        | N  |    |        | T  |

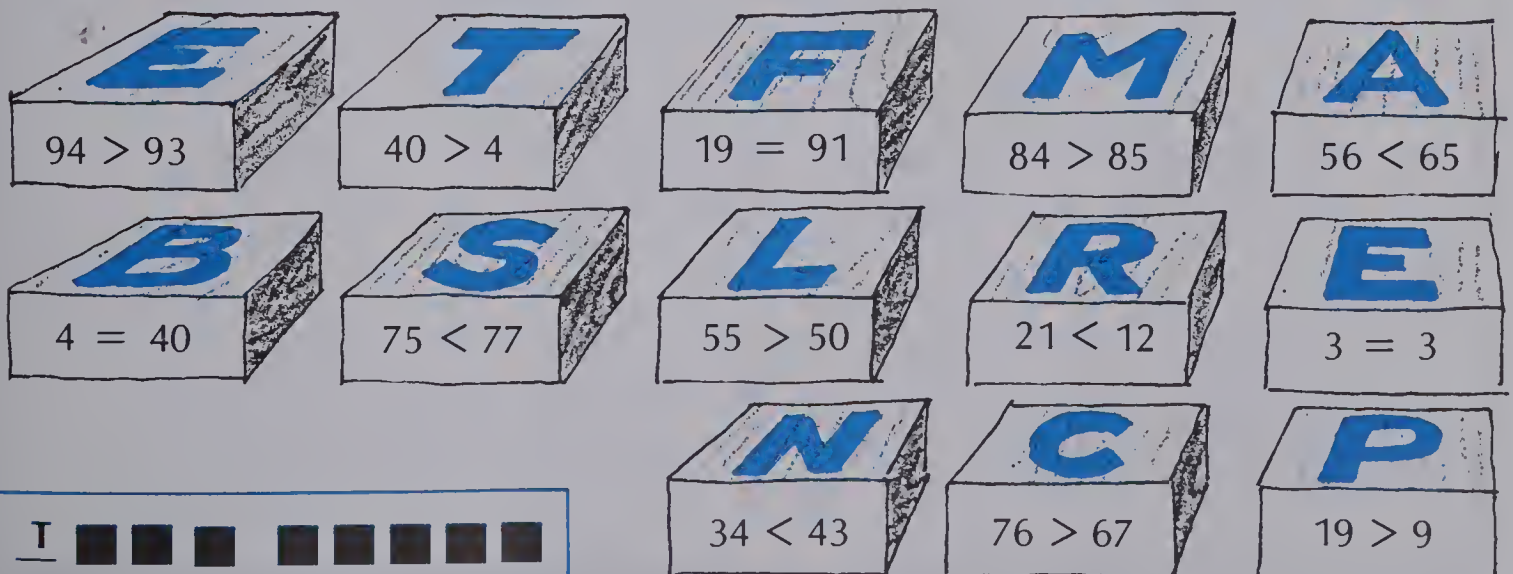
10. Write all the numbers that are greater than 43 and less than 49.

11. Write the numbers between 83 and 88.

## Compare These!

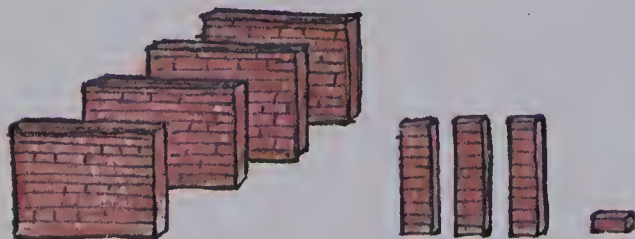
Find each piece of wood on which the number comparison is correct.

Copy these letters. Unscramble them to make two words which are used in our numeration system.



# Hundreds

John has to lay 431 more bricks to finish the driveway.



$$400 + 30 + 1$$

Expanded form:  $400 + 30 + 1$

Standard form: 431

Words: four hundred thirty-one

hundreds	tens	ones
4	3	1

four hundred thirty-one



## EXERCISES

Write in expanded form.

1. 387

2. 184

3. 256

4. 851

5. 102

Write in standard form.

6. two hundred twenty-three

7. five hundred eighty-one

8. nine hundred four

9. seven hundred thirty

10. 5 hundreds + 3 tens + 1 one

11. 6 hundreds + 6 tens + 6 ones

12. 2 hundreds + 0 tens + 0 ones

13. 0 hundreds + 5 tens + 9 ones

Write the number of hundreds, tens, and ones.

14.  $316 = \blacksquare$  hundreds +  $\blacksquare$  tens +  $\blacksquare$  ones

15.  $782 = \blacksquare$  hundreds +  $\blacksquare$  tens +  $\blacksquare$  ones

Copy and complete using  $<$ ,  $=$ , or  $>$ .

16.  $200 \blacksquare 300$

17.  $270 \blacksquare 320$

18.  $279 \blacksquare 325$

19.  $630 \blacksquare 620$

20.  $632 \blacksquare 629$

21.  $632 \blacksquare 639$

22.  $880 \blacksquare 88$

23.  $520 \blacksquare 502$

24.  $283 \blacksquare 283$

## PRACTICE

Write in standard form.

- |                     |                               |                   |
|---------------------|-------------------------------|-------------------|
| 1. $600 + 40 + 8$   | 2. $200 + 90 + 1$             | 3. $900 + 70 + 4$ |
| 4. $300 + 6$        | 5. $500 + 50$                 | 6. $80 + 3$       |
| 7. four hundred two | 8. eight hundred thirty-one   |                   |
| 9. one hundred ten  | 10. six hundred seventy-eight |                   |

Copy and complete using  $<$ ,  $=$ , or  $>$ .

- |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|
| 11. $48 \blacksquare 49$   | 12. $421 \blacksquare 214$ | 13. $365 \blacksquare 356$ |
| 14. $804 \blacksquare 840$ | 15. $99 \blacksquare 101$  | 16. $696 \blacksquare 696$ |
| 17. $101 \blacksquare 401$ | 18. $793 \blacksquare 792$ | 19. $909 \blacksquare 990$ |

Write the next ten numerals in the pattern.

- |                        |                        |
|------------------------|------------------------|
| 20. 356, 357, 358, ... | 21. 100, 150, 200, ... |
| 22. 692, 694, 696, ... | 23. 450, 460, 470, ... |

Write the numerals between:

- |                 |                 |                |
|-----------------|-----------------|----------------|
| 24. 248 and 253 | 25. 396 and 403 | 26. 98 and 104 |
|-----------------|-----------------|----------------|

Write the numeral halfway between:

- |                 |                 |                 |
|-----------------|-----------------|-----------------|
| 27. 348 and 352 | 28. 580 and 590 | 29. 725 and 731 |
|-----------------|-----------------|-----------------|

## Debbie's Digits

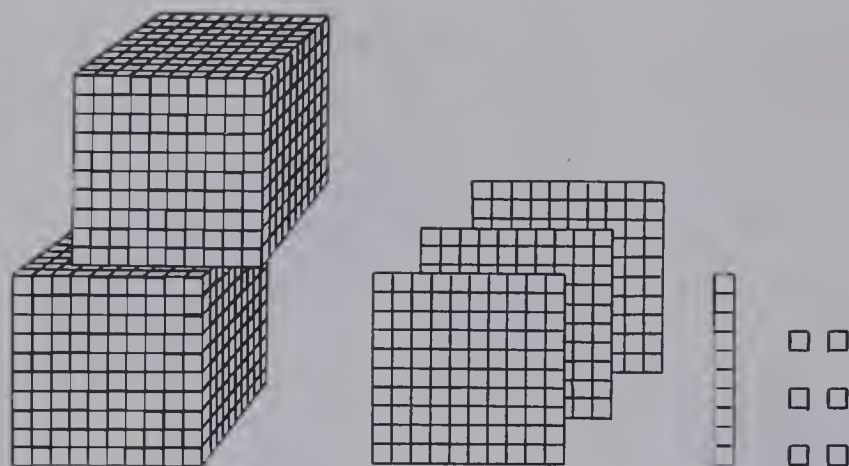
Debbie changed each number in Column 1 to the number in Column 2.

Figure out what Debbie did to each number.

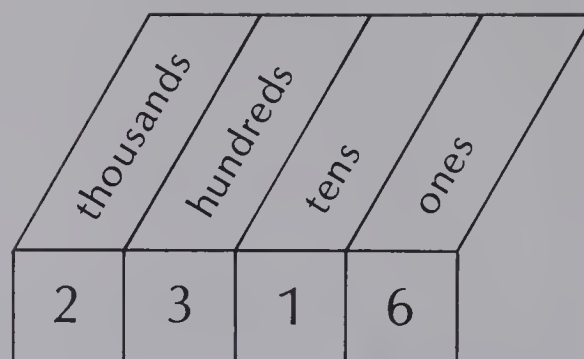
Do the same thing to the number in Column 3.

	Column 1		Column 2		Column 3		Column 4
1.	158	→	851		206	→	___?
2.	370	→	307		478	→	___?
3.	692	→	962		314	→	___?
4.	446	→	644		229	→	___?
5.	253	→	364		108	→	___?
6.	246	→	247		691	→	___?

# Thousands



$$2000 + 300 + 10 + 6 = 2316$$



two thousand  
three hundred  
sixteen

Expanded form:  $2000 + 300 + 10 + 6$

Standard form: 2316

Words: two thousand three hundred sixteen

## EXERCISES

What does the 6 in each numeral mean?

1. 6420      2. 8162      3. 6007      4. 9356      5. 6341

Write in expanded form.

6. 9812      7. 1305      8. 7644      9. 5062      10. 8790

Write in standard form.

11. 3 thousands + 6 hundreds + 9 tens + 5 ones
12. 8 thousands + 0 hundreds + 0 tens + 7 ones
13. 0 thousands + 4 hundreds + 2 tens + 2 ones
14. one thousand five hundred sixty-eight
15. five thousand two hundred eight
16. nine thousand

Copy and complete using  $<$ ,  $=$ , or  $>$ .

- |                 |                 |                 |
|-----------------|-----------------|-----------------|
| 17. 2000 ■ 3000 | 18. 1270 ■ 1320 | 19. 4279 ■ 5325 |
| 20. 9630 ■ 9620 | 21. 5632 ■ 5632 | 22. 4105 ■ 4104 |



## PRACTICE

Write in standard form.

- |                                       |                          |                 |
|---------------------------------------|--------------------------|-----------------|
| 1. $2000 + 500 + 70 + 9$              | 2. $6000 + 60$           | 3. $8000 + 5$   |
| 4. $1000 + 100 + 10 + 1$              | 5. $700 + 90 + 4$        | 6. $3000 + 500$ |
| 7. nine thousand six hundred nineteen | 8. two thousand two      |                 |
| 9. three thousand two hundred five    | 10. one thousand thirty  |                 |
| 11. two thousand two                  | 12. nine thousand thirty |                 |

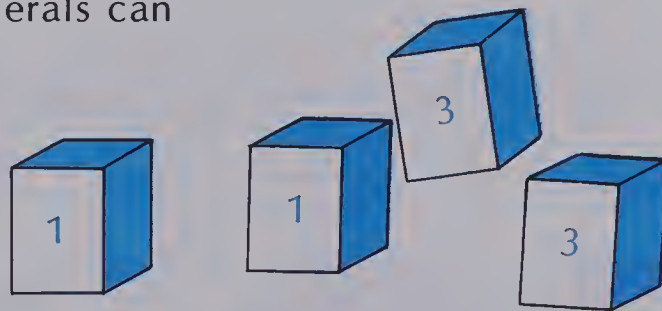
Copy and complete.

Put  $<$ ,  $=$ , or  $>$  in place of the ■ to make a true statement.

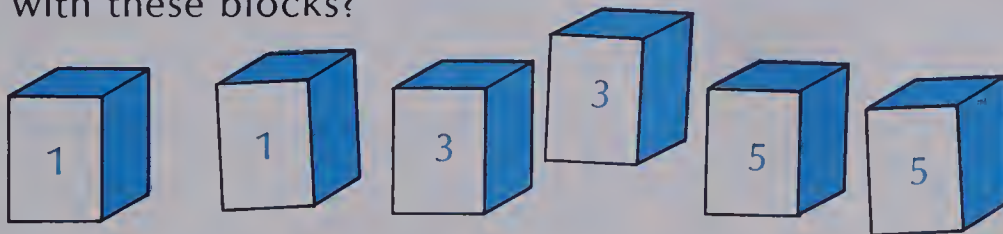
- |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|
| 13. $4835 \blacksquare 5921$ | 14. $2106 \blacksquare 2110$ | 15. $8014 \blacksquare 8012$ |
| 16. $7008 \blacksquare 7008$ | 17. $1110 \blacksquare 999$  | 18. $6380 \blacksquare 6384$ |

## Count the Blocks

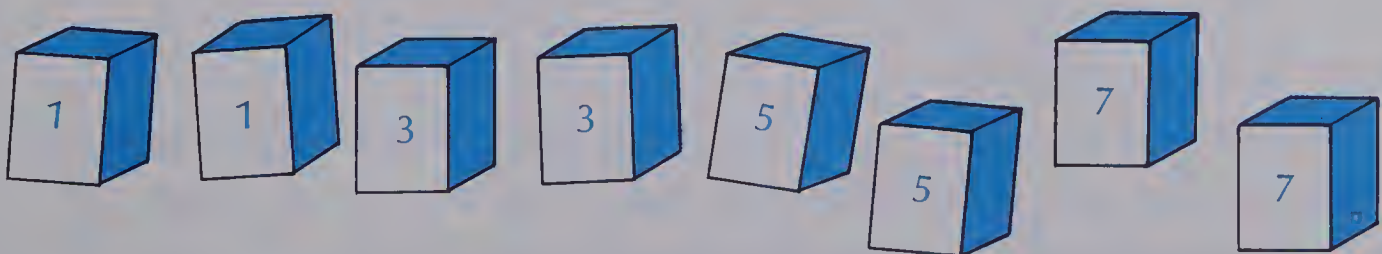
How many different two-digit numerals can you make with these blocks?



How many different two-digit numerals can you make with these blocks?



How many different two-digit numerals can you make with these blocks?



Do you see a pattern?

# Dollars and Cents



ten dollars  
\$10



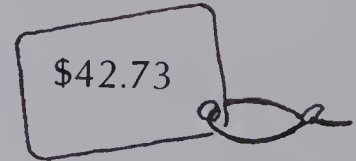
one dollar  
\$1



ten cents  
10¢



one cent  
1¢



forty-two dollars and seventy-three cents

To show **ninety-five cents** using a dollar sign, write **\$0.95**.

## EXERCISES

Use a dollar sign to write these prices.

1.



2. 18 dollars and 50 cents

3. 70 dollars and 15 cents

4. 88 dollars

5. 88 cents

6. 5 dollars and 5 cents

7. 0 dollars and 25 cents

Write  $>$ ,  $<$ , or  $=$  for  $\bullet$ .

8. \$6.00  $\bullet$  \$7.00

9. \$17.20  $\bullet$  \$13.20

10. \$68.35  $\bullet$  \$68.45

11. \$10.75  $\bullet$  \$10.72

12. \$0.68  $\bullet$  \$0.78

13. \$0.75  $\bullet$  75¢

## PRACTICE

Use a dollar sign.

- |                            |               |
|----------------------------|---------------|
| 1. 35 dollars and 10 cents | 2. 89 cents   |
| 3. 89 dollars and 2 cents  | 4. 75 dollars |
| 5. 60 dollars and 60 cents | 6. 2 cents    |

Write  $>$ ,  $<$ , or  $=$  for  $\bullet$ .

- |                              |                               |                              |
|------------------------------|-------------------------------|------------------------------|
| 7. \$68.95 $\bullet$ \$69.98 | 8. \$7.43 $\bullet$ \$7.49    | 9. \$18.05 $\bullet$ \$29.98 |
| 10. \$0.69 $\bullet$ \$2.01  | 11. \$85.00 $\bullet$ \$58.99 | 12. \$0.06 $\bullet$ 5 cents |
| 13. \$3.45 $\bullet$ \$3.61  | 14. \$25 $\bullet$ 25 dollars | 15. \$6.01 $\bullet$ \$5.99  |

Solve.

16. Nails are sold by the kilogram.  
 They cost \$5.97 at Bob's Lumber.  
 They cost \$5.79 at Trudy's Hardware.  
 Where should Carpenter Jack buy his nails?
17. Which costs more: ten tiles for \$4.00 or twenty tiles for \$7.00?

## REVIEW

Copy and complete.

$N_1$  Put  $<$ ,  $=$ , or  $>$  in place of  $\blacksquare$  to make a true statement.

- |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|
| 1. 64 $\blacksquare$ 46 | 2. 31 $\blacksquare$ 32 | 3. 50 $\blacksquare$ 5  |
| 4. 71 $\blacksquare$ 71 | 5. 84 $\blacksquare$ 85 | 6. 21 $\blacksquare$ 12 |

Write in standard form.

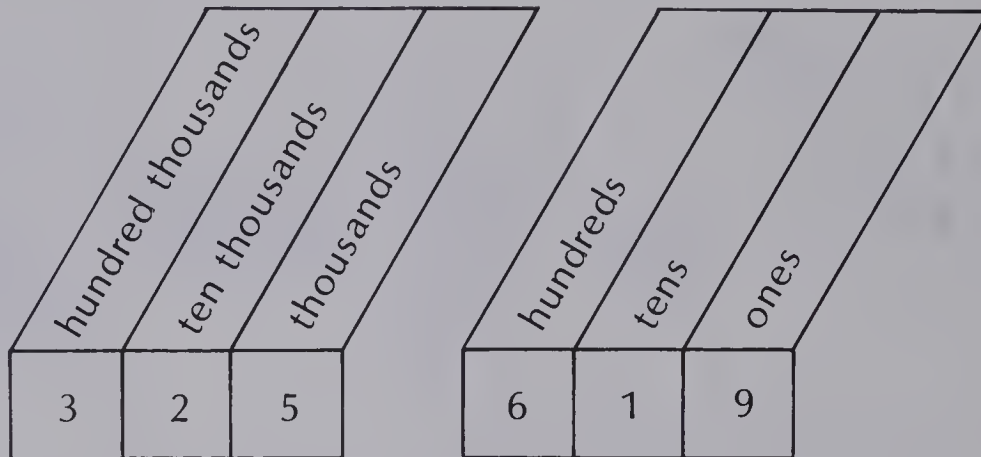
- |                                  |                      |
|----------------------------------|----------------------|
| $N_2$ 7. five hundred twenty-one | 8. nine hundred nine |
| 9. two hundred fourteen          | 10. seven hundred    |

Write the place value of the 4 in each numeral.

- |                |          |          |          |
|----------------|----------|----------|----------|
| $N_3$ 11. 2400 | 12. 4189 | 13. 3745 | 14. 6964 |
|----------------|----------|----------|----------|

# Hundred Thousands

The Egyptians took nearly two years to move 325 619 blocks for building the Great Pyramid.



Expanded form:  $300\,000 + 20\,000 + 5\,000 + 600 + 10 + 9$

Standard form: 325 619

Words: three hundred twenty-five thousand six hundred nineteen

## EXERCISES

In the numeral 481 235

1. Which digit is in the hundreds place?
2. Which digit is in the hundred-thousands place?
3. Which digit is in the tens place?

Write in standard form.

4. Write a 4-digit numeral with a 5 in the thousands place.
5. Write a 6-digit numeral with a 1 in the ten-thousands place.
6. Write a 5-digit numeral with an 8 in the hundreds place.
7. Write a 6-digit numeral with a 2 in the hundred-thousands place.

Write in expanded form.

- |            |            |            |          |
|------------|------------|------------|----------|
| 8. 823 704 | 9. 196 528 | 10. 90 145 | 11. 3768 |
|------------|------------|------------|----------|



## PRACTICE

Write a numeral in standard form.

1. fifty-two thousand six hundred eighty-seven
2. four hundred ninety-five thousand one hundred thirteen
3. thirty-three thousand three
4. nine hundred thousand nine hundred
5. eight hundred forty thousand ninety-two

Write in standard form.

6.  $100\ 000 + 40\ 000 + 300 + 6$
7.  $30\ 000 + 300 + 3$
8.  $700\ 000 + 1000 + 50$
9.  $600\ 000 + 10$

Copy and complete.

Put  $<$ ,  $=$ , or  $>$  in place of the ■ to make a true statement.

10.  $346\ 108$  ■  $299\ 875$
11.  $67\ 224$  ■  $67\ 226$
12.  $596\ 000$  ■  $596\ 001$
13.  $19\ 283$  ■  $19\ 283$
14.  $510\ 009$  ■  $509\ 999$
15.  $280\ 101$  ■  $281\ 011$

## Picture Power



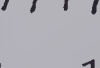
Arithmetic was very important in early times.

Numerals as we know them today were not used. The







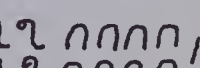





Egyptians used a different set of symbols to show numbers.

They did not use place value, so many repetitions were needed to write simple numerals.

1	/	staff
10	∩	heel bone
100	∩	scroll
1000	⌘	lotus flower

  
$100 + 60 + 8 = 168$

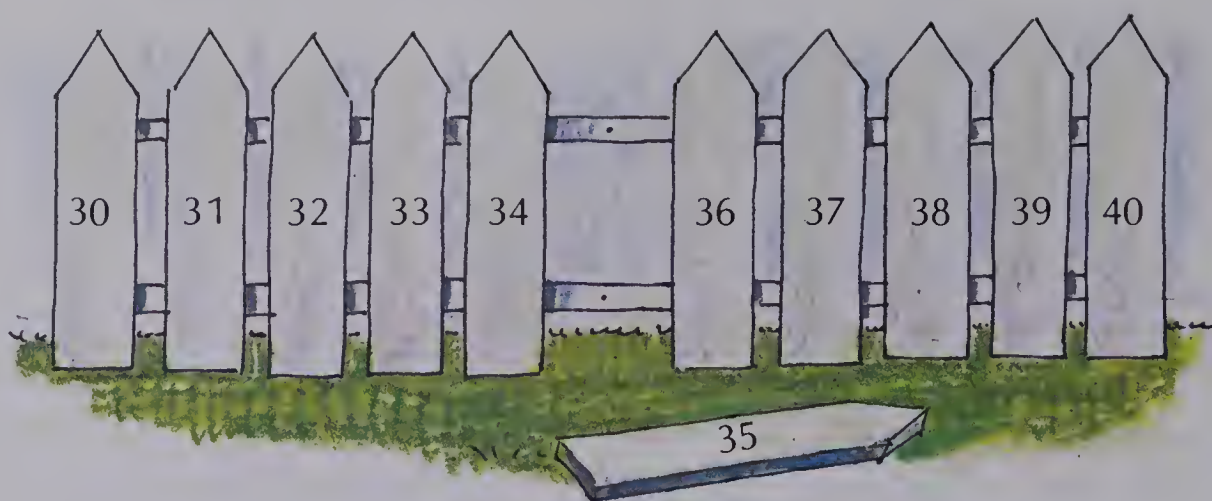
Write these Egyptian numerals using our system.

1.  
2.   
3.   
4.    

Write these using Egyptian numerals.

5. 483
6. 126
7. 579
8. 1314
9. 3245

# Rounding



32 is between 30 and 40. 32 rounds to 30.

38 is between 30 and 40. 38 rounds to 40.

35 is *halfway* between 30 and 40.

A number halfway between two numbers  
is rounded to the larger number.

35 rounds to 40.

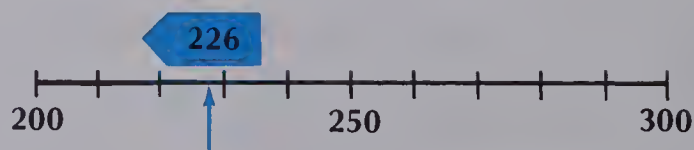
## EXERCISES

Round to the nearest ten.

- 82 is between 80 and ■. 82 rounds to ■.
- 23 is between ■ and ■. 23 rounds to ■.
- 66 is between ■ and ■. 66 rounds to ■.
- 45 is between ■ and ■. 45 rounds to ■.
- 98 is between ■ and ■. 98 rounds to ■.

Round to the nearest hundred.

- 226 is between 200 and 300.  
226 rounds to ■.



- 589 is between ■ and ■. 589 rounds to ■.
- 707 is between ■ and ■. 707 rounds to ■.
- 550 is between ■ and ■. 550 rounds to ■.
- 94 is between ■ and ■. 94 rounds to ■.

## PRACTICE

Round to the nearest ten.

- |          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 1. 18    | 2. 57    | 3. 96    | 4. 75    | 5. 14    |
| 6. 26    | 7. 41    | 8. 85    | 9. 108   | 10. 126  |
| 11. 111  | 12. 865  | 13. 350  | 14. 649  | 15. 273  |
| 16. 1062 | 17. 4382 | 18. 5555 | 19. 3009 | 20. 7297 |

Round to the nearest hundred.

- |            |            |             |            |             |
|------------|------------|-------------|------------|-------------|
| 21. 111    | 22. 865    | 23. 350     | 24. 649    | 25. 273     |
| 26. 421    | 27. 608    | 28. 528     | 29. 973    | 30. 89      |
| 31. 2641   | 32. 9036   | 33. 7418    | 34. 3030   | 35. 5050    |
| 36. 25 483 | 37. 69 104 | 38. 218 472 | 39. 40 090 | 40. 293 951 |

41. For questions 31 to 40, round each to the nearest thousand.
42. The highest point in Canada is Mount Logan.  
It is 5951 m high.  
How high is Mount Logan to the nearest ten metres?  
to the nearest hundred metres? to the nearest thousand metres?

## Square Numbers

1, 4, and 9 are called square numbers. Can you guess why?



Find all the square numbers up to 100.

# Ordinal Numbers

Here is a section of a map of Caryton. The streets and avenues use ordinal numbers.

I live at 95th Avenue  
and 82nd Street.



**95th** is a short way of writing **ninety-fifth**.

**82nd** is a short way of writing **eighty-second**.

## EXERCISES

Write each the short way.

1. one hundred thirteenth
2. eighteenth
3. fifty-fifth
4. sixty-first
5. ninety-third
6. thirty-second
7. six hundred tenth
8. twentieth

Write each as an ordinal number.

Use words and the short way.

- |       |        |        |        |         |
|-------|--------|--------|--------|---------|
| 9. 26 | 10. 34 | 11. 47 | 12. 52 | 13. 62  |
| 14. 3 | 15. 5  | 16. 21 | 17. 30 | 18. 101 |



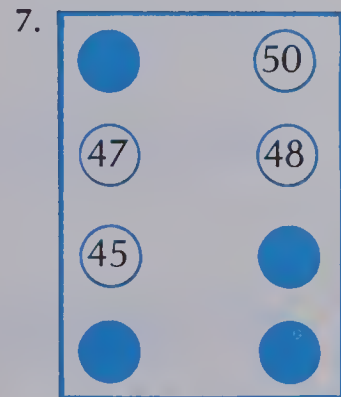
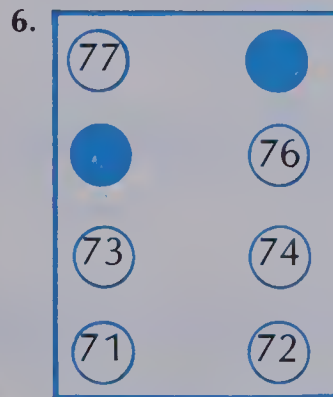
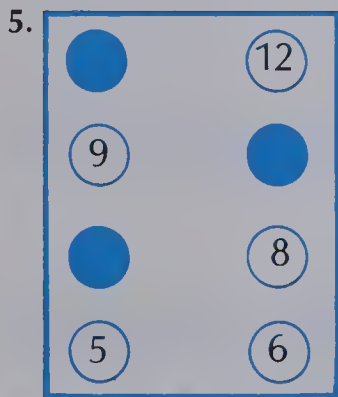
# PRACTICE

Use ordinal numbers to answer the questions.



1. On what date does the first Friday of December occur?
2. What four dates in December are Mondays?
3. What date is the fourth Wednesday in December?
4. Read the dates for each day of the month.

The pictures show sets of elevator buttons. The passengers have pushed the buttons that are coloured. On what floors will the elevators stop?



## Golly

All of these are Gollys.

4124	3672	6148	5336	2920	1234
------	------	------	------	------	------

None of these are Gollys.

8	1235	23 516	650	11	2221
---	------	--------	-----	----	------

Which of these are Gollys?

1224	3	292	1350	4321	6548	89
------	---	-----	------	------	------	----

# Reading Roman Numerals

I

1

V

5

X

10

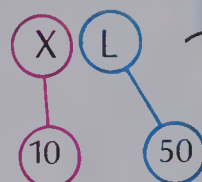
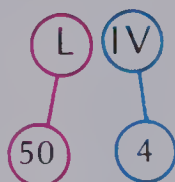
L

50

C

100

Look for the number groups you know.



Large number first: Add.

L I V

$$50 + 4 = 54$$

Small number first: Subtract.

X L

$$50 - 10 = 40$$

## EXERCISES

1. Write the Roman numerals for 1 to 10.

1	2	3	4	5	6	7	8	9	10

2. Write the Roman numerals for 11 to 20.

11	12	13	14	15	16	17	18	19	20

Write the numeral in standard form.

- |         |          |         |            |             |
|---------|----------|---------|------------|-------------|
| 3. II   | 4. V     | 5. IV   | 6. VII     | 7. X        |
| 8. III  | 9. VI    | 10. XII | 11. XV     | 12. XVIII   |
| 13. XXX | 14. XXII | 15. XXV | 16. XXVIII | 17. XXIX    |
| 18. L   | 19. LIII | 20. LV  | 21. LIV    | 22. LX      |
| 23. LVI | 24. LI   | 25. LXX | 26. LXXV   | 27. LXXXVII |
| 28. LIX | 29. XL   | 30. C   | 31. XC     | 32. XCIII   |

33. Count by tens in Roman numerals.

10	20	30	40	50	60	70	80	90	100

# PRACTICE

Write a numeral in standard form for each Roman numeral.  
Crack the code by writing the letter corresponding to the number in the row below.

IX	■	E	XIX	■	E	XXIV	■	M
XXXIII	■	S	XLVII	■	P	LVIII	■	R
LXVI	■	T	LXXIV	■	E	LXXXI	■	B

■	E	■	■	■	■	■	■	■
33	9	47	66	19	24	81	74	58



# REVIEW

Write in expanded form.

- |           |            |           |            |
|-----------|------------|-----------|------------|
| 1. 23 671 | 2. 104 603 | 3. 68 004 | 4. 758 249 |
|-----------|------------|-----------|------------|

**N4** Write in standard form.

5. four hundred sixty-five thousand eight hundred forty-three
6. one hundred fifty-two thousand twenty-one
7. seventy-four thousand two hundred eight

Round to the nearest ten.

- |       |        |         |          |
|-------|--------|---------|----------|
| 8. 44 | 9. 321 | 10. 695 | 11. 2804 |
|-------|--------|---------|----------|

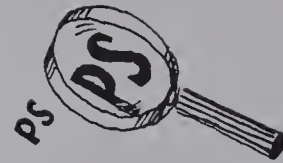
**N5** Round to the nearest hundred and to the nearest thousand.

- |          |          |          |          |
|----------|----------|----------|----------|
| 12. 1349 | 13. 1851 | 14. 2760 | 15. 3950 |
|----------|----------|----------|----------|

**N6** Write each in words as an ordinal.

- |        |        |         |        |
|--------|--------|---------|--------|
| 16. 29 | 17. 63 | 18. 121 | 19. 15 |
|--------|--------|---------|--------|

# Reading Charts



This chart shows the number of homes built in Canada in three different years (it includes houses and apartments).

Regions of Canada:	1967	1972	1977
Atlantic provinces	7 410	15 000	17 778
Quebec	39 108	53 466	61 979
Ontario	58 278	96 438	80 717
Prairie provinces	22 720	36 226	58 084
British Columbia	21 726	31 097	33 231



Answer these questions from the information in the chart:

1. How many homes were built in British Columbia in 1972?  
How many homes were built in Quebec in 1967?  
In 1977, how many homes were built in the Atlantic provinces?
2. When and where were the most houses built?  
When and where were the fewest houses built?
3. Arrange the 1977 figures in order from least to most construction.
4. How many regions built more than 50 000 homes in 1967?  
How many in 1972? How many in 1977?
5. Where were fewer houses built in 1977 than in 1972?
6. Which region had the biggest increase from 1972 to 1977?



# UNIT 1

# TEST

Copy and complete.

Use  $<$ ,  $=$ , or  $>$  to make a true statement.

- |                                  |                                    |                                    |
|----------------------------------|------------------------------------|------------------------------------|
| 1. $39 \blacksquare 38$          | 2. $17 \blacksquare 71$            | 3. $46 \blacksquare 46$            |
| 4. $125 \blacksquare 152$        | 5. $436 \blacksquare 335$          | 6. $284 \blacksquare 340$          |
| 7. $3865 \blacksquare 4981$      | 8. $2398 \blacksquare 2389$        | 9. $9465 \blacksquare 9501$        |
| 10. $\$6.89 \blacksquare \$6.98$ | 11. $\$16.25 \blacksquare \$15.99$ | 12. $\$38.49 \blacksquare \$78.99$ |

Write in standard form.

- |                                       |                                 |
|---------------------------------------|---------------------------------|
| 13. 5 hundreds + 3 tens + 0 ones      | 14. 1 hundred + 0 tens + 0 ones |
| 15. four thousand six hundred fifteen | 16. nine thousand nine          |

Write using a dollar sign.

- |                            |                             |
|----------------------------|-----------------------------|
| 17. 18 dollars and 2 cents | 18. 50 dollars and 99 cents |
|----------------------------|-----------------------------|

Write in expanded form.

- |            |            |             |             |
|------------|------------|-------------|-------------|
| 19. 12 790 | 20. 50 104 | 21. 364 825 | 22. 800 600 |
|------------|------------|-------------|-------------|

Round to the nearest ten. Round to the nearest hundred.

- |          |            |            |             |
|----------|------------|------------|-------------|
| 23. 6149 | 24. 25 451 | 25. 93 783 | 26. 417 008 |
|----------|------------|------------|-------------|

Write each as an ordinal number.

Use words and the short way.

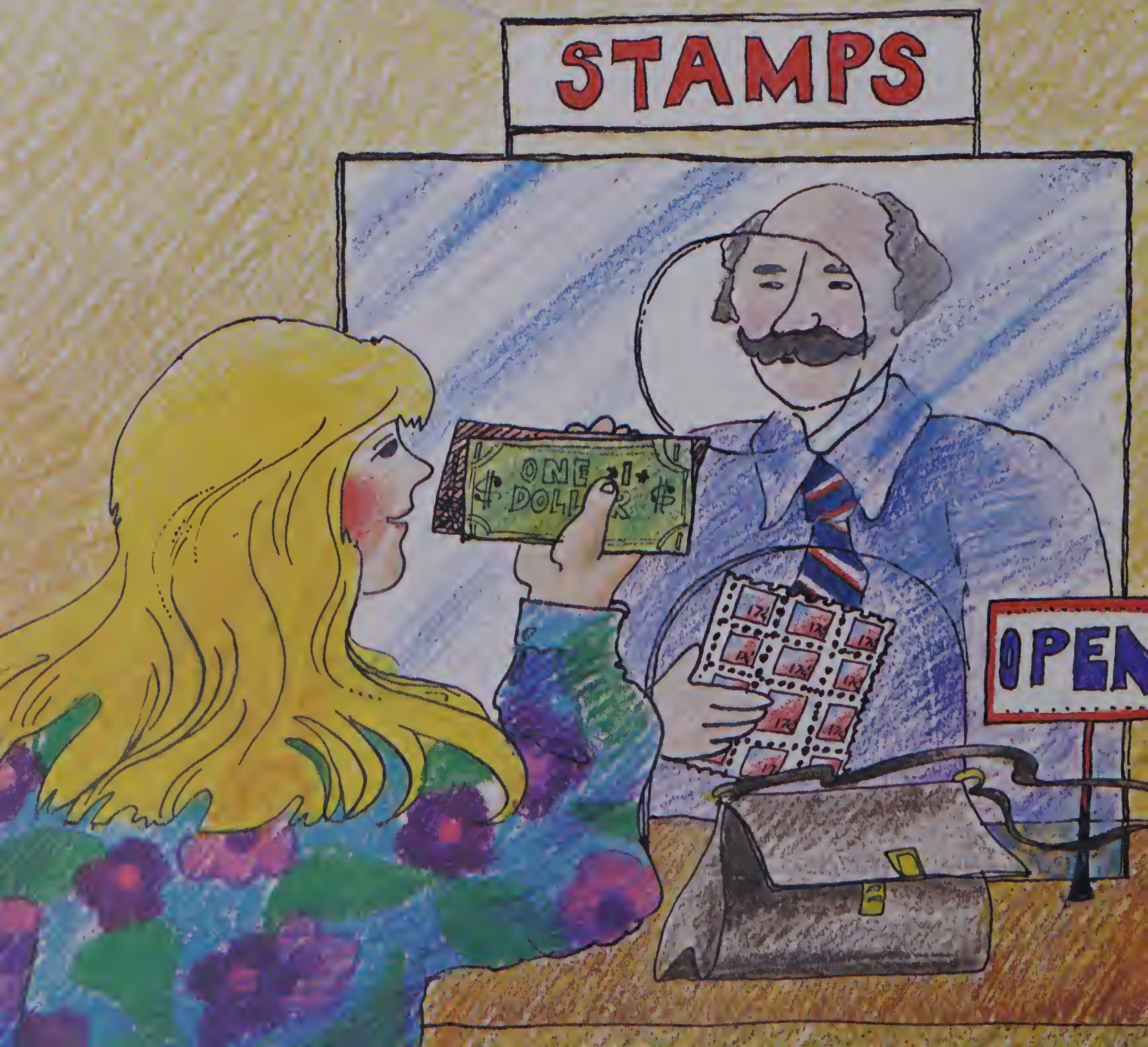
- |        |        |        |        |         |
|--------|--------|--------|--------|---------|
| 27. 31 | 28. 18 | 29. 52 | 30. 93 | 31. 301 |
|--------|--------|--------|--------|---------|

Write the Roman numeral for each of these.

- |       |        |        |        |         |
|-------|--------|--------|--------|---------|
| 32. 9 | 33. 34 | 34. 47 | 35. 62 | 36. 111 |
|-------|--------|--------|--------|---------|

# UNIT 2

## ADDITION AND SUBTRACTION I





# Collecting Stamps

How much for these stamps?

$$\begin{array}{r} 5\text{¢} \\ + 3\text{¢} \\ \hline \end{array}$$



How much change?

$$\begin{array}{r} 5\text{¢} \\ - 3\text{¢} \\ \hline \end{array}$$



Add.

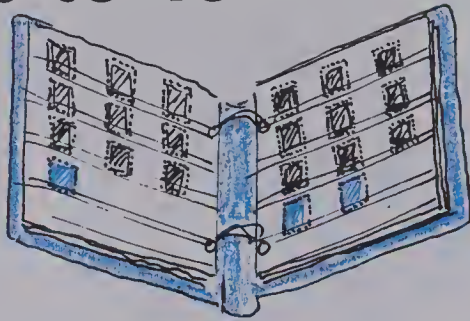
1. $\begin{array}{r} 1 \\ + 1 \\ \hline \end{array}$	2. $\begin{array}{r} 4 \\ + 2 \\ \hline \end{array}$	3. $\begin{array}{r} 7 \\ + 2 \\ \hline \end{array}$
4. $\begin{array}{r} 1 \\ + 3 \\ \hline \end{array}$	5. $\begin{array}{r} 2 \\ + 6 \\ \hline \end{array}$	6. $\begin{array}{r} 3 \\ + 4 \\ \hline \end{array}$
7. $\begin{array}{r} 4 \\ + 5 \\ \hline \end{array}$	8. $\begin{array}{r} 6 \\ + 3 \\ \hline \end{array}$	9. $\begin{array}{r} 5 \\ + 2 \\ \hline \end{array}$

Subtract.

1. $\begin{array}{r} 2 \\ - 1 \\ \hline \end{array}$	2. $\begin{array}{r} 6 \\ - 2 \\ \hline \end{array}$	3. $\begin{array}{r} 9 \\ - 2 \\ \hline \end{array}$
4. $\begin{array}{r} 4 \\ - 3 \\ \hline \end{array}$	5. $\begin{array}{r} 8 \\ - 6 \\ \hline \end{array}$	6. $\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$
7. $\begin{array}{r} 9 \\ - 5 \\ \hline \end{array}$	8. $\begin{array}{r} 9 \\ - 3 \\ \hline \end{array}$	9. $\begin{array}{r} 7 \\ - 2 \\ \hline \end{array}$

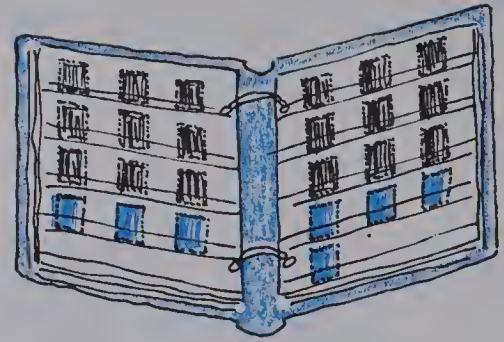


# Facts to 13



$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$



$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 13 \\ - 4 \\ \hline 9 \end{array}$$

## EXERCISES

Add.

$$\begin{array}{r} 1. \quad 9 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 9 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 8 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 9 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 8 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 9 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 8 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 7 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 8 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 7 \\ + 5 \\ \hline \end{array}$$

$$11. \quad 6 + 5$$

$$12. \quad 5 + 5$$

$$13. \quad 7 + 6$$

$$14. \quad 6 + 6$$

$$15. \quad 5 + 6$$

$$16. \quad 4 + 6$$

$$17. \quad 5 + 8$$

$$18. \quad 4 + 9$$

Subtract.

$$\begin{array}{r} 19. \quad 10 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 11 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 12 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 13 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 10 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 11 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad 12 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 13 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 10 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 11 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 29. \quad 12 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 13 \\ - 7 \\ \hline \end{array}$$

$$31. \quad 10 - 8$$

$$32. \quad 11 - 8$$

$$33. \quad 12 - 8$$

$$34. \quad 13 - 8$$

$$35. \quad 10 - 9$$

$$36. \quad 11 - 9$$

$$37. \quad 12 - 9$$

$$38. \quad 13 - 9$$

## PRACTICE

Add or subtract.

$$\begin{array}{r} 1. \quad 8 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 5 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 9 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 8 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 6 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 12 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 10 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 13 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 12 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 11 \\ - 8 \\ \hline \end{array}$$

$$11. \quad 9 + 2$$

$$12. \quad 8 + 5$$

$$13. \quad 6 + 4$$

$$14. \quad 7 + 3$$

$$15. \quad 5 + 7$$

$$16. \quad 9 + 3$$

$$17. \quad 13 - 5$$

$$18. \quad 10 - 8$$

$$19. \quad 12 - 7$$

$$20. \quad 13 - 8$$

$$21. \quad 13 - 6$$

$$22. \quad 12 - 5$$

Solve.

23. 6 Swedish stamps saved  
6 Spanish stamps saved  
How many stamps were  
saved in all?

24. 10 Jamaican stamps  
7 Brazilian stamps  
How many more Jamaican  
than Brazilian stamps?

25. Jody had 12¢. She bought a 5¢ stamp.  
How much money did she have left?

26. A school stamp club had 7 boys and 6 girls as members.  
How many members did the club have?

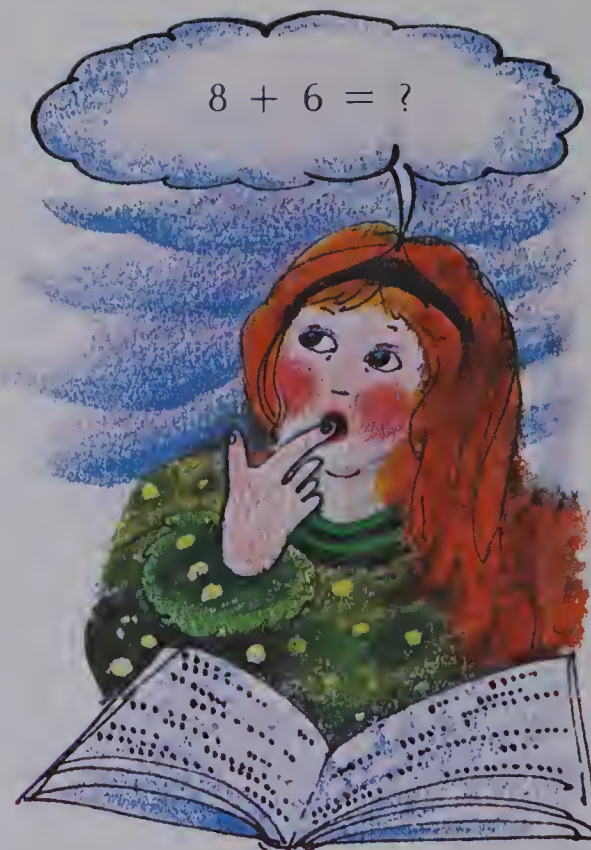
## Lights Out

John and Reuben live across the street from each other. Both have a red light, a yellow light, and a blue light. The boys can signal each other through the window by using different combinations of lights. They use 1, 2, or 3 lights for a signal. How many different signals can they make?



# Facts to 18

+	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9	10
2	2	3	4	5	6	7	8	9	10	11
3	3	4	5	6	7	8	9	10	11	12
4	4	5	6	7	8	9	10	11	12	13
5	5	6	7	8	9	10	11	12	13	
6	6	7	8	9	10	11	12	13		
7	7	8	9	10	11	12	13			
8	8	9	10	11	12	13				
9	9	10	11	12	13					



## EXERCISES

Add or subtract.

1.  $\begin{array}{r} 3 \\ + 5 \\ \hline \end{array}$

2.  $\begin{array}{r} 4 \\ + 4 \\ \hline \end{array}$

3.  $\begin{array}{r} 5 \\ + 2 \\ \hline \end{array}$

4.  $\begin{array}{r} 0 \\ + 8 \\ \hline \end{array}$

5.  $\begin{array}{r} 2 \\ + 7 \\ \hline \end{array}$

6.  $\begin{array}{r} 7 \\ + 6 \\ \hline \end{array}$

7.  $\begin{array}{r} 5 \\ + 8 \\ \hline \end{array}$

8.  $\begin{array}{r} 4 \\ + 8 \\ \hline \end{array}$

9.  $\begin{array}{r} 6 \\ + 6 \\ \hline \end{array}$

10.  $\begin{array}{r} 9 \\ + 4 \\ \hline \end{array}$

11.  $7 + 7$

12.  $8 + 9$

13.  $9 + 9$

14.  $8 + 6$

15.  $8 + 8$

16.  $9 + 7$

17.  $6 + 9$

18.  $8 + 6$

19.  $9 + 5$

20.  $7 + 8$

21.  $\begin{array}{r} 8 \\ - 4 \\ \hline \end{array}$

22.  $\begin{array}{r} 5 \\ - 0 \\ \hline \end{array}$

23.  $\begin{array}{r} 9 \\ - 5 \\ \hline \end{array}$

24.  $\begin{array}{r} 7 \\ - 2 \\ \hline \end{array}$

25.  $\begin{array}{r} 13 \\ - 6 \\ \hline \end{array}$

26.  $\begin{array}{r} 12 \\ - 7 \\ \hline \end{array}$

27.  $\begin{array}{r} 13 \\ - 5 \\ \hline \end{array}$

28.  $\begin{array}{r} 12 \\ - 9 \\ \hline \end{array}$

29.  $\begin{array}{r} 11 \\ - 4 \\ \hline \end{array}$

30.  $\begin{array}{r} 11 \\ - 6 \\ \hline \end{array}$

31.  $18 - 9$

32.  $14 - 8$

33.  $15 - 7$

34.  $17 - 8$

35.  $15 - 9$

36.  $17 - 9$

37.  $16 - 8$

38.  $16 - 7$

39.  $15 - 9$

40.  $14 - 7$



# PRACTICE

Add or subtract.

$$\begin{array}{r} 1. \quad 9 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 5 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 6 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 3 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 9 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 17 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 15 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 13 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 11 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 8 \\ - 0 \\ \hline \end{array}$$

$$11. \quad 0 + 7$$

$$12. \quad 8 + 8$$

$$13. \quad 5 + 9$$

$$14. \quad 6 + 5$$

$$15. \quad 16 - 9$$

$$16. \quad 14 - 5$$

$$17. \quad 12 - 4$$

$$18. \quad 17 - 8$$

$$\begin{array}{r} 19. \quad 9 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 7 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 9 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 6 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 8 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 18 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad 16 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 17 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 15 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 14 \\ - 8 \\ \hline \end{array}$$

Solve.

29. When the stamp club met, there were only 7 chairs for the 12 members. How many more chairs were needed?

30. The stamp club met every Thursday. There were 4 Thursdays in April and 5 Thursdays in May. How many times did the club meet in the two months?

## Pattern Puzzle

Make an addition table.

Look for hidden patterns in it.

Show the patterns you can find.

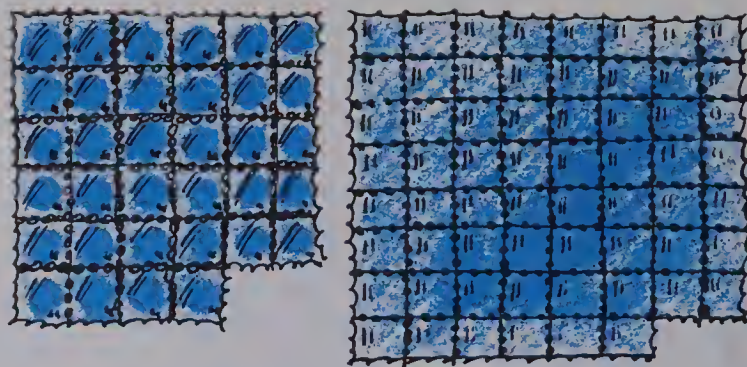


a line of 6s

# Two-Place Addition

How many stamps  
are there altogether?

There are  $34 + 62$  stamps.



Write the  
question.

$$\begin{array}{r} 34 \\ + 62 \\ \hline \end{array}$$

Add ones.

$$\begin{array}{r} 34 \\ + 62 \\ \hline 6 \end{array}$$

Add tens.

$$\begin{array}{r} 34 \\ + 62 \\ \hline 96 \end{array}$$

$$\begin{array}{r} 34 \\ + 62 \\ \hline 96 \end{array}$$

There are 96 stamps.

## EXERCISES

Add.

1.  $\begin{array}{r} 43 \\ + 5 \\ \hline \end{array}$

2.  $\begin{array}{r} 52 \\ + 6 \\ \hline \end{array}$

3.  $\begin{array}{r} 27 \\ + 1 \\ \hline \end{array}$

4.  $\begin{array}{r} 17 \\ + 62 \\ \hline \end{array}$

5.  $\begin{array}{r} 2 \\ + 27 \\ \hline \end{array}$

6.  $\begin{array}{r} 13 \\ + 12 \\ \hline \end{array}$

7.  $\begin{array}{r} 17 \\ + 11 \\ \hline \end{array}$

8.  $\begin{array}{r} 16 \\ + 10 \\ \hline \end{array}$

9.  $\begin{array}{r} 13 \\ + 15 \\ \hline \end{array}$

10.  $\begin{array}{r} 10 \\ + 10 \\ \hline \end{array}$

11.  $\begin{array}{r} 42 \\ + 15 \\ \hline \end{array}$

12.  $\begin{array}{r} 63 \\ + 36 \\ \hline \end{array}$

13.  $\begin{array}{r} 31 \\ + 45 \\ \hline \end{array}$

14.  $\begin{array}{r} 76 \\ + 22 \\ \hline \end{array}$

15.  $\begin{array}{r} 50 \\ + 39 \\ \hline \end{array}$

16.  $\begin{array}{r} 73 \\ + 14 \\ \hline \end{array}$

17.  $\begin{array}{r} 80 \\ + 10 \\ \hline \end{array}$

18.  $\begin{array}{r} 27 \\ + 52 \\ \hline \end{array}$

19.  $\begin{array}{r} 48 \\ + 10 \\ \hline \end{array}$

20.  $\begin{array}{r} 42 \\ + 23 \\ \hline \end{array}$

21.  $\begin{array}{r} 48 \\ + 11 \\ \hline \end{array}$

22.  $\begin{array}{r} 65 \\ + 34 \\ \hline \end{array}$

23.  $\begin{array}{r} 22 \\ + 47 \\ \hline \end{array}$

24.  $\begin{array}{r} 54 \\ + 32 \\ \hline \end{array}$

25.  $\begin{array}{r} 26 \\ + 51 \\ \hline \end{array}$

26.  $\begin{array}{r} 36 \\ + 42 \\ \hline \end{array}$

27.  $\begin{array}{r} 28 \\ + 30 \\ \hline \end{array}$

28.  $\begin{array}{r} 43 \\ + 25 \\ \hline \end{array}$

29.  $\begin{array}{r} 55 \\ + 44 \\ \hline \end{array}$

30.  $\begin{array}{r} 31 \\ + 58 \\ \hline \end{array}$

# PRACTICE

Add.

$$\begin{array}{r} 1. \quad 33 \\ + 21 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 40 \\ + 27 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 62 \\ + 31 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 24 \\ + 53 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 24 \\ + 73 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 70 \\ + 29 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 16 \\ + 82 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 74 \\ + 15 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 21 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 30 \\ + 40 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 31 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 59 \\ + 20 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 6 \\ + 82 \\ \hline \end{array}$$

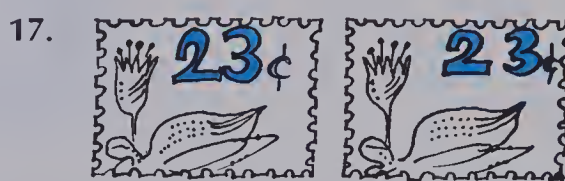
$$\begin{array}{r} 14. \quad 43 \\ + 43 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 69 \\ + 30 \\ \hline \end{array}$$

Solve.



How much do these stamps cost?

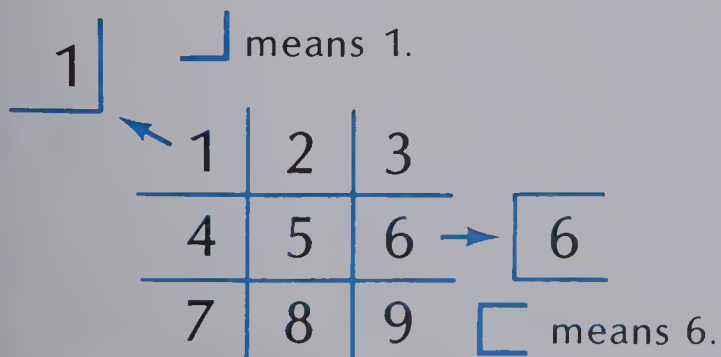


How much do these stamps cost?

18. Rosa went to the post office to mail a birthday present to her grandmother. The parcel needed a 25 cent stamp and a 12 cent stamp.  
How much did it cost to mail the parcel?

19. Emma sold 52 Canadian stamps and 36 American stamps.  
How many stamps did Emma sell?

## Top Secret



Add.

$$\begin{array}{r} 1. \quad \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ + \quad \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ + \quad \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ + \quad \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ + \quad \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ \hline \end{array}$$



# An Extra Ten

Last year, the stamp catalog listed 45¢ as the value of this Canadian stamp.

This year, the price increased by 8¢.

What would a dealer charge now?



Write the question.

$$\begin{array}{r} 45 \\ + 8 \\ \hline \end{array}$$

Think:

8

+ 5

13 = 1 ten 3 ones

Add ones.

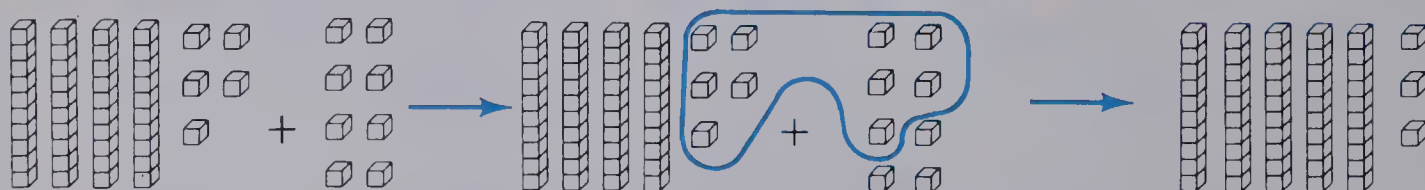
Write: 1 ten above  
3 ones below

$$\begin{array}{r} 1 \\ 45 \\ + 8 \\ \hline 3 \end{array}$$

Add tens.

$$\begin{array}{r} 1 \\ 45 \\ + 8 \\ \hline 53 \end{array}$$

$$\begin{array}{r} 1 \\ 45 \\ + 8 \\ \hline 53 \end{array}$$



The stamp now costs 53¢.

## EXERCISES

Add.

1.  $\begin{array}{r} 6 \\ + 8 \\ \hline \end{array}$

2.  $\begin{array}{r} 16 \\ + 8 \\ \hline \end{array}$

3.  $\begin{array}{r} 26 \\ + 8 \\ \hline \end{array}$

4.  $\begin{array}{r} 36 \\ + 8 \\ \hline \end{array}$

5.  $\begin{array}{r} 46 \\ + 8 \\ \hline \end{array}$

6.  $\begin{array}{r} 9 \\ + 3 \\ \hline \end{array}$

7.  $\begin{array}{r} 19 \\ + 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 29 \\ + 3 \\ \hline \end{array}$

9.  $\begin{array}{r} 9 \\ + 13 \\ \hline \end{array}$

10.  $\begin{array}{r} 9 \\ + 23 \\ \hline \end{array}$

11.  $\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$

12.  $\begin{array}{r} 17 \\ + 7 \\ \hline \end{array}$

13.  $\begin{array}{r} 57 \\ + 7 \\ \hline \end{array}$

14.  $\begin{array}{r} 87 \\ + 7 \\ \hline \end{array}$

15.  $\begin{array}{r} 7 \\ + 37 \\ \hline \end{array}$

## PRACTICE

Add.

$$\begin{array}{r} 1. \quad 27 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 32 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 48 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 69 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 88 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 75 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 66 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 8 \\ + 35 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 29 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 48 \\ + 6 \\ \hline \end{array}$$

$$11. \quad 28 + 7$$

$$12. \quad 9 + 33$$

$$13. \quad 16 + 7$$

$$14. \quad 7 + 84$$

$$15. \quad 36 + 9$$

$$16. \quad 3 + 29$$

$$17. \quad 87 + 7$$

$$18. \quad 4 + 19$$

Solve.

19. Suzanne bought six new United States stamps for her collection. She already had 35 U.S. stamps. How many United States stamps does she now have?

## REVIEW

Add.

$$\begin{array}{r} A1 \quad 1. \quad 7 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 2 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 5 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 8 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 6 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} A2 \quad 6. \quad 9 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 8 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 7 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 9 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 8 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} A3 \quad 11. \quad 63 \\ + 15 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 25 \\ + 34 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 52 \\ + 43 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 81 \\ \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 6 \\ + 32 \\ \hline \end{array}$$

$$\begin{array}{r} A4 \quad 16. \quad 33 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 67 \\ + 3 \\ \hline \end{array}$$

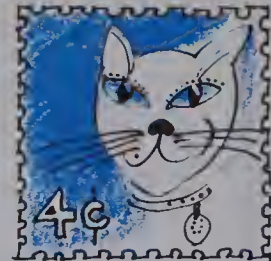
$$\begin{array}{r} 18. \quad 54 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 18 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 6 \\ + 48 \\ \hline \end{array}$$

# Three Addends

How much do the three stamps cost altogether?



Write the question.

$$\begin{array}{r} 2 \\ 3 \\ + 4 \\ \hline \end{array}$$

Add 2 and 3.

$$\begin{array}{r} 2 \quad 5 \\ 3 \\ + 4 \\ \hline \end{array}$$

Add the sum and 4.

$$\begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 2 \\ 3 \\ + 4 \\ \hline 9 \end{array}$$

The three stamps cost 9¢.

## EXERCISES

Add.

1.  $\begin{array}{r} 4 \\ 2 \\ + 6 \\ \hline \end{array}$

2.  $\begin{array}{r} 1 \\ 5 \\ + 3 \\ \hline \end{array}$

3.  $\begin{array}{r} 5 \\ 5 \\ + 5 \\ \hline \end{array}$

4.  $\begin{array}{r} 8 \\ 2 \\ + 9 \\ \hline \end{array}$

5.  $\begin{array}{r} 3 \\ 0 \\ + 7 \\ \hline \end{array}$

6.  $\begin{array}{r} 6 \\ 4 \\ + 7 \\ \hline \end{array}$

7.  $\begin{array}{r} 3 \\ 8 \\ + 4 \\ \hline \end{array}$

8.  $\begin{array}{r} 3 \\ 4 \\ + 5 \\ \hline \end{array}$

9.  $\begin{array}{r} 7 \\ 3 \\ + 6 \\ \hline \end{array}$

10.  $\begin{array}{r} 6 \\ 7 \\ + 5 \\ \hline \end{array}$

11.  $\begin{array}{r} 6 \\ 7 \\ + 7 \\ \hline \end{array}$

12.  $\begin{array}{r} 6 \\ 7 \\ + 8 \\ \hline \end{array}$

13.  $\begin{array}{r} 7 \\ 5 \\ + 9 \\ \hline \end{array}$

14.  $\begin{array}{r} 9 \\ 8 \\ + 6 \\ \hline \end{array}$

15.  $\begin{array}{r} 9 \\ 9 \\ + 9 \\ \hline \end{array}$

16.  $7 + 2 + 4$

17.  $1 + 0 + 4$

18.  $5 + 9 + 8$

19.  $\begin{array}{r} 41 \\ 35 \\ + 12 \\ \hline \end{array}$

20.  $\begin{array}{r} 24 \\ 50 \\ + 13 \\ \hline \end{array}$

21.  $\begin{array}{r} 32 \\ 44 \\ + 23 \\ \hline \end{array}$

22.  $\begin{array}{r} 21 \\ 21 \\ + 21 \\ \hline \end{array}$

23.  $\begin{array}{r} 70 \\ 17 \\ + 12 \\ \hline \end{array}$



# PRACTICE

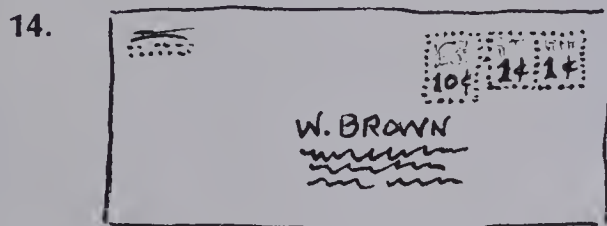
Find the sum.

1.	6	2.	2	3.	9	4.	9	5.	8
	4		4		1		7		4
	<u>+ 5</u>		<u>+ 6</u>		<u>+ 8</u>		<u>+ 7</u>		<u>+ 9</u>

6.	$2 + 4 + 9$	7.	$3 + 0 + 4$	8.	$9 + 5 + 8$
----	-------------	----	-------------	----	-------------

9.	50	10.	13	11.	32	12.	44	13.	17
	20		13		15		11		30
	<u>+ 20</u>		<u>+ 13</u>		<u>+ 41</u>		<u>+ 23</u>		<u>+ 42</u>

Find the value of each set of stamps.



Solve.

16. A page of a stamp album has a set of 5 stamps and a set of 8 on it. There are 7 spaces left.  
How many stamps can be put on the page?

## Lazy Head!

You can add numbers in any order.

Find 2 numbers whose sum is 10.

Add these first.

Then add the other number.

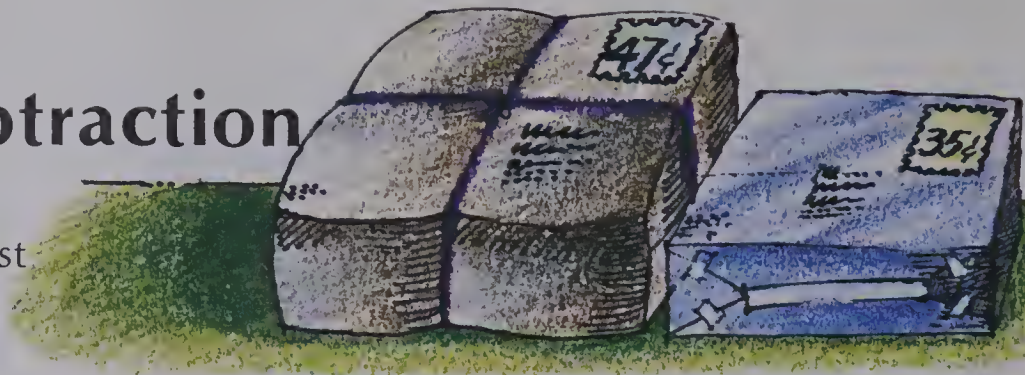
5		5
3		3
<u>+ 5</u>	10	<u>+ 5</u>
	13	13

Try these.

1.	5	2.	4	3.	5	4.	7	5.	6
	8		8		5		9		1
	<u>+ 2</u>		<u>+ 6</u>		<u>+ 7</u>		<u>+ 3</u>		<u>+ 9</u>

# Two-Place Subtraction

How much more does it cost to mail the large parcel?



Write the question.

$$\begin{array}{r} 47 \\ - 35 \\ \hline \end{array}$$

Subtract ones.

$$\begin{array}{r} 47 \\ - 35 \\ \hline 2 \end{array}$$

Subtract tens.

$$\begin{array}{r} 47 \\ - 35 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 47 \\ - 35 \\ \hline 12 \end{array}$$

The larger parcel costs 12¢ more to mail.

## EXERCISES

Subtract.

1.  $\begin{array}{r} 35 \\ - 12 \\ \hline \end{array}$

2.  $\begin{array}{r} 87 \\ - 34 \\ \hline \end{array}$

3.  $\begin{array}{r} 96 \\ - 52 \\ \hline \end{array}$

4.  $\begin{array}{r} 48 \\ - 43 \\ \hline \end{array}$

5.  $\begin{array}{r} 79 \\ - 28 \\ \hline \end{array}$

6.  $\begin{array}{r} 67 \\ - 16 \\ \hline \end{array}$

7.  $\begin{array}{r} 59 \\ - 36 \\ \hline \end{array}$

8.  $\begin{array}{r} 52 \\ - 11 \\ \hline \end{array}$

9.  $\begin{array}{r} 16 \\ - 14 \\ \hline \end{array}$

10.  $\begin{array}{r} 80 \\ - 50 \\ \hline \end{array}$

11.  $\begin{array}{r} 56 \\ - 15 \\ \hline \end{array}$

12.  $\begin{array}{r} 76 \\ - 30 \\ \hline \end{array}$

13.  $\begin{array}{r} 83 \\ - 72 \\ \hline \end{array}$

14.  $\begin{array}{r} 92 \\ - 4 \\ \hline \end{array}$

15.  $\begin{array}{r} 38 \\ - 31 \\ \hline \end{array}$

16.  $\begin{array}{r} 40 \\ - 10 \\ \hline \end{array}$

17.  $\begin{array}{r} 29 \\ - 23 \\ \hline \end{array}$

18.  $\begin{array}{r} 31 \\ - 21 \\ \hline \end{array}$

19.  $\begin{array}{r} 94 \\ - 33 \\ \hline \end{array}$

20.  $\begin{array}{r} 44 \\ - 14 \\ \hline \end{array}$

21.  $\begin{array}{r} 75 \\ - 42 \\ \hline \end{array}$

22.  $\begin{array}{r} 87 \\ - 32 \\ \hline \end{array}$

23.  $\begin{array}{r} 92 \\ - 41 \\ \hline \end{array}$

24.  $\begin{array}{r} 84 \\ - 82 \\ \hline \end{array}$

25.  $\begin{array}{r} 63 \\ - 20 \\ \hline \end{array}$

26.  $\begin{array}{r} 39 \\ - 3 \\ \hline \end{array}$

27.  $\begin{array}{r} 45 \\ - 3 \\ \hline \end{array}$

28.  $\begin{array}{r} 99 \\ - 9 \\ \hline \end{array}$

29.  $\begin{array}{r} 69 \\ - 2 \\ \hline \end{array}$

30.  $\begin{array}{r} 38 \\ - 7 \\ \hline \end{array}$

## PRACTICE

Subtract.

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. $\begin{array}{r} 85 \\ - 42 \\ \hline \end{array}$  | 2. $\begin{array}{r} 56 \\ - 13 \\ \hline \end{array}$  | 3. $\begin{array}{r} 38 \\ - 6 \\ \hline \end{array}$   | 4. $\begin{array}{r} 97 \\ - 21 \\ \hline \end{array}$  | 5. $\begin{array}{r} 22 \\ - 12 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 98 \\ - 70 \\ \hline \end{array}$  | 7. $\begin{array}{r} 41 \\ - 20 \\ \hline \end{array}$  | 8. $\begin{array}{r} 59 \\ - 36 \\ \hline \end{array}$  | 9. $\begin{array}{r} 75 \\ - 4 \\ \hline \end{array}$   | 10. $\begin{array}{r} 63 \\ - 33 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 74 \\ - 53 \\ \hline \end{array}$ | 12. $\begin{array}{r} 19 \\ - 17 \\ \hline \end{array}$ | 13. $\begin{array}{r} 52 \\ - 40 \\ \hline \end{array}$ | 14. $\begin{array}{r} 96 \\ - 34 \\ \hline \end{array}$ | 15. $\begin{array}{r} 87 \\ - 7 \\ \hline \end{array}$  |

Solve.

16. 29 Italian and  
Greek stamps  
15 Greek stamps  
How many Italian stamps?
17. 75¢ to clerk  
51¢ for stamps  
How much change?
18. David bought a stamp package containing 75 stamps. There were 45 Canadian stamps in the package. How many foreign stamps did David get?



## Sign Language

Copy the grid.

Look for addition and subtraction facts on it.

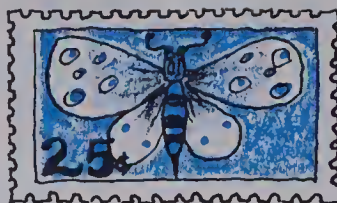
Put a plus or minus sign and an equal sign between numbers. How many true statements can you make? The facts can be found in diagonals, rows, or columns. You can use numbers more than once.

5	0	9	9	0	5
1 + 3 = 4	8	5	3		
6	7	0	3	9	8
11	4	8	12	1	1
4	11	9	29	20	9
15	11	4	17	7	10



# Two-Place Subtraction

How much more does the blue stamp cost?



Write the question.

$$\begin{array}{r} 25 \\ - 8 \\ \hline \end{array}$$

Regroup tens and ones.

$$\begin{array}{r} 1 \text{ } 15 \\ \cancel{2} \cancel{5} \\ - 8 \\ \hline \end{array}$$

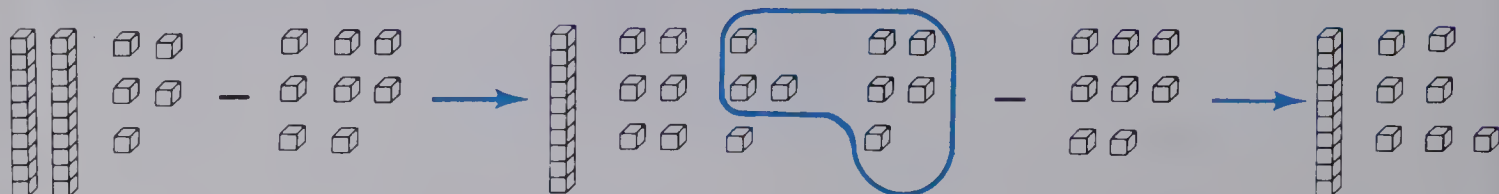
Subtract ones.

$$\begin{array}{r} 1 \text{ } 15 \\ \cancel{2} \cancel{5} \\ - 8 \\ \hline 7 \end{array}$$

Subtract tens.

$$\begin{array}{r} 1 \text{ } 15 \\ \cancel{2} \cancel{5} \\ - 8 \\ \hline 1 \text{ } 7 \end{array}$$

$$\begin{array}{r} 1 \text{ } 15 \\ \cancel{2} \cancel{5} \\ - 8 \\ \hline 1 \text{ } 7 \end{array}$$



The blue stamp costs 17¢ more.

## EXERCISES

Subtract.

1.  $\begin{array}{r} 12 \\ - 3 \\ \hline \end{array}$

2.  $\begin{array}{r} 22 \\ - 3 \\ \hline \end{array}$

3.  $\begin{array}{r} 32 \\ - 3 \\ \hline \end{array}$

4.  $\begin{array}{r} 42 \\ - 3 \\ \hline \end{array}$

5.  $\begin{array}{r} 82 \\ - 3 \\ \hline \end{array}$

6.  $\begin{array}{r} 17 \\ - 9 \\ \hline \end{array}$

7.  $\begin{array}{r} 27 \\ - 9 \\ \hline \end{array}$

8.  $\begin{array}{r} 37 \\ - 9 \\ \hline \end{array}$

9.  $\begin{array}{r} 47 \\ - 9 \\ \hline \end{array}$

10.  $\begin{array}{r} 77 \\ - 9 \\ \hline \end{array}$

11.  $\begin{array}{r} 16 \\ - 8 \\ \hline \end{array}$

12.  $\begin{array}{r} 26 \\ - 8 \\ \hline \end{array}$

13.  $\begin{array}{r} 46 \\ - 8 \\ \hline \end{array}$

14.  $\begin{array}{r} 66 \\ - 8 \\ \hline \end{array}$

15.  $\begin{array}{r} 96 \\ - 8 \\ \hline \end{array}$

# PRACTICE

Subtract.

$$\begin{array}{r} 1. \quad 85 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 97 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 26 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 58 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 62 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 44 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 78 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 66 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 37 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 23 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 57 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 41 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 35 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 65 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 53 \\ - 4 \\ \hline \end{array}$$

Solve.

16. 27 stamp club members  
8 members move  
How many members now?

17. 25¢ to clerk  
9¢ for stamp  
How much change?

18. Willie had 32 Hungarian stamps in his collection.  
He gave his brother five of them to help him start  
his own collection. How many Hungarian stamps did  
Willie have left?

19. Alana had 53 British stamps in her collection.  
She traded four British stamps for some Canadian  
stamps. How many British stamps does Alana  
have now?



## Magic Square

This is a magic square.

Each row, column, and diagonal  
has the same sum.

6	7	2
1	5	9
8	3	4

Help Gertie disguise the square. Put the digits  
1 through 9 in the squares so that *none* of the rows,  
columns, or diagonals has the *same* sum.



# Three-Place Addition and Subtraction

What was the total attendance at the convention?

How many more men than women registered?

Add ones.

$$\begin{array}{r} 247 \\ + 131 \\ \hline 8 \end{array}$$

Add tens.

$$\begin{array}{r} 247 \\ + 131 \\ \hline 78 \end{array}$$

Add hundreds.

$$\begin{array}{r} 247 \\ + 131 \\ \hline 378 \end{array}$$



There were 378 men and women attending the convention.

Subtract ones.

$$\begin{array}{r} 247 \\ - 131 \\ \hline 6 \end{array}$$

Subtract tens.

$$\begin{array}{r} 247 \\ - 131 \\ \hline 16 \end{array}$$

Subtract hundreds.

$$\begin{array}{r} 247 \\ - 131 \\ \hline 116 \end{array}$$

There were 116 more men than women registered.

## EXERCISES

Add or subtract.

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. $\begin{array}{r} 813 \\ + 146 \\ \hline \end{array}$  | 2. $\begin{array}{r} 635 \\ + 304 \\ \hline \end{array}$  | 3. $\begin{array}{r} 442 \\ + 322 \\ \hline \end{array}$  | 4. $\begin{array}{r} 196 \\ + 801 \\ \hline \end{array}$  | 5. $\begin{array}{r} 750 \\ + 240 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 575 \\ + 413 \\ \hline \end{array}$  | 7. $\begin{array}{r} 869 \\ + 120 \\ \hline \end{array}$  | 8. $\begin{array}{r} 217 \\ + 782 \\ \hline \end{array}$  | 9. $\begin{array}{r} 300 \\ + 500 \\ \hline \end{array}$  | 10. $\begin{array}{r} 406 \\ + 202 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 585 \\ - 420 \\ \hline \end{array}$ | 12. $\begin{array}{r} 982 \\ - 361 \\ \hline \end{array}$ | 13. $\begin{array}{r} 726 \\ - 503 \\ \hline \end{array}$ | 14. $\begin{array}{r} 874 \\ - 632 \\ \hline \end{array}$ | 15. $\begin{array}{r} 375 \\ - 241 \\ \hline \end{array}$ |
| 16. $\begin{array}{r} 987 \\ - 700 \\ \hline \end{array}$ | 17. $\begin{array}{r} 305 \\ - 102 \\ \hline \end{array}$ | 18. $\begin{array}{r} 689 \\ - 589 \\ \hline \end{array}$ | 19. $\begin{array}{r} 634 \\ - 421 \\ \hline \end{array}$ | 20. $\begin{array}{r} 975 \\ - 860 \\ \hline \end{array}$ |



## PRACTICE

Add or subtract.

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. $\begin{array}{r} 276 \\ + 411 \\ \hline \end{array}$  | 2. $\begin{array}{r} 765 \\ + 112 \\ \hline \end{array}$  | 3. $\begin{array}{r} 897 \\ + 101 \\ \hline \end{array}$  | 4. $\begin{array}{r} 431 \\ + 465 \\ \hline \end{array}$  | 5. $\begin{array}{r} 553 \\ + 336 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 984 \\ - 810 \\ \hline \end{array}$  | 7. $\begin{array}{r} 658 \\ - 337 \\ \hline \end{array}$  | 8. $\begin{array}{r} 513 \\ - 300 \\ \hline \end{array}$  | 9. $\begin{array}{r} 309 \\ - 103 \\ \hline \end{array}$  | 10. $\begin{array}{r} 782 \\ - 781 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 236 \\ - 115 \\ \hline \end{array}$ | 12. $\begin{array}{r} 428 \\ - 300 \\ \hline \end{array}$ | 13. $\begin{array}{r} 793 \\ - 182 \\ \hline \end{array}$ | 14. $\begin{array}{r} 824 \\ - 314 \\ \hline \end{array}$ | 15. $\begin{array}{r} 500 \\ - 100 \\ \hline \end{array}$ |

Solve.

- |  |  |
|--|--|
| <p>16. 205 stamps<br/>371 stamps<br/>How many stamps in all?</p> | <p>17. 848 stamp collectors<br/>502 girls collect stamps<br/>How many boys collect stamps?</p> |
|--|--|
18. John had 468 stamps. His friend Joe had 330 stamps.  
How many stamps did they have in all?
19. Shauna and her sister Sherrie together had 853 stamps. Shauna had 520 stamps. How many stamps did Sherrie have?

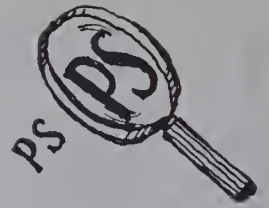
## Fancy Figures



How many different figures can you make using the four stamps? Each stamp must have one edge in common with at least one other stamp.

# Problem Solving

Here are two problems.



## Problem 1

Trudy has 56¢.

David has 32¢.

How much do they have altogether?

$$\begin{array}{r} \text{Add!} \quad 56\text{¢} \\ + 32\text{¢} \\ \hline 88\text{¢} \end{array}$$

They have 88¢ altogether.

## Problem 2

Trudy has 56¢.

David has 32¢.

How much more does Trudy have?

$$\begin{array}{r} \text{Subtract!} \quad 56\text{¢} \\ - 32\text{¢} \\ \hline 24\text{¢} \end{array}$$

Trudy has 24¢ more.

For some addition and subtraction problems, it helps to look for special words and phrases.

## EXERCISES

Are these addition or subtraction questions?

Which operation should you use?

1. How much in all? + -

2. How much is left? + -

3. What is the total? + -

4. Find the difference. + -

5. How much less? + -

6. Find the sum. + -

Decide which operation to use.

7. Tom has 47 marbles.  
Joe has 32 marbles.  
How many do they have altogether?

8. Marta has 34 records.  
Sam has 30 records.  
How many more records does  
does Marta have?

9. Bob has 79 stamps.  
Gilda has 54 stamps.  
How many more stamps  
does Bob have?

10. Debbie has 23 stamps.  
She bought 6 more.  
How many does she  
have now?

## PRACTICE

Decide which operation to use.

1. Pam has 56 books.  
Ron has 31 books.  
How many more books does Pam have than Ron?
2. Sam has 23 cards.  
Jim has 45 cards.  
How many cards do they have together?
3. Maria has 26 cousins.  
Joan has 14 cousins.  
How many more cousins does Maria have than Joan?
4. Chang has 64 marks.  
Jean has 78 marks.  
How many fewer marks does Chang have?
5. Don has 52 models.  
Mel has 41 models.  
How many models do they have in all?
6. Helen has 24 pictures.  
David has 42 pictures.  
What is the total number of pictures?

Solve.

7. Tina had 41 stamps in her collection. She collected 33 more. How many stamps were in her collection then?
8. Michael has 54 stamps in his collection. His brother Scott has 87 stamps in his collection. Who has more stamps? How many more does he have?

## USING THE CALCULATOR

Use a calculator to find the following sums.

**Change the order of addition.**

1.  $57 + 31$
2.  $48 + 26$
3.  $308 + 421$
4.  $3 + 4 + 7$
5.  $6 + 9 + 1$

$$31 + 57$$

Does changing the order of addition change the sum?



# Temperature

Joan wanted to tell her friends how warm it was.

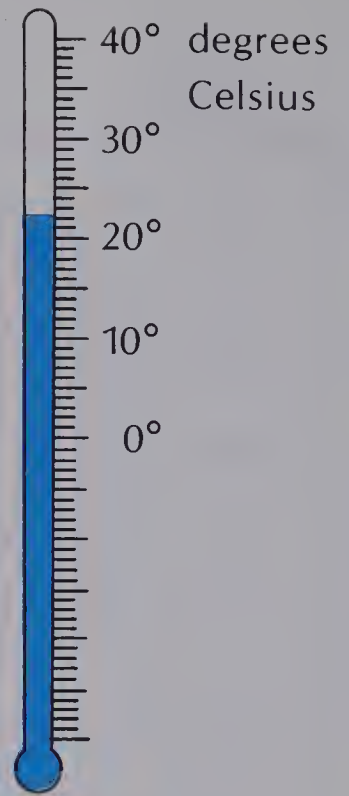
The thermometer outside showed the liquid between the 20° and the 30° marks.

Joan looked more closely.

The liquid was 2 marks above the 20° mark.

The temperature was 22°C.

“°C” is the symbol for “degrees Celsius”.



## EXERCISES

1.



What temperature is the pop?

2.



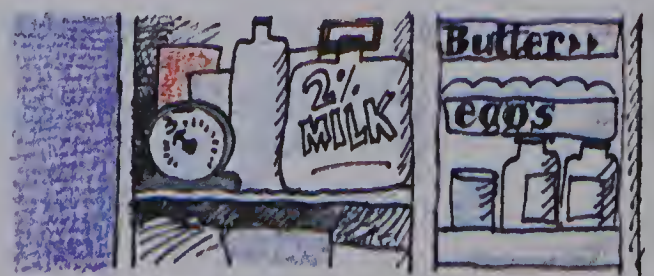
What temperature is the hot chocolate?

3.



What temperature is the air in the room?

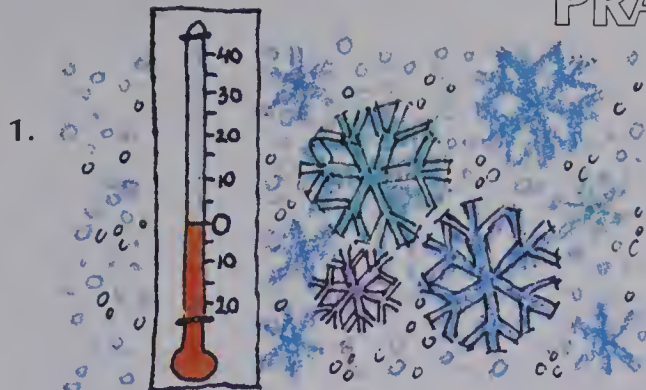
4.



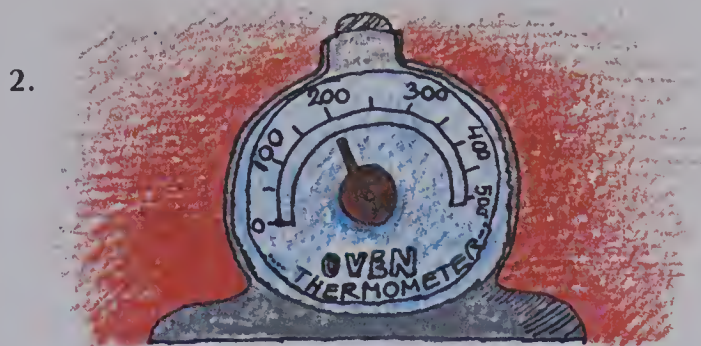
What temperature is the air in the refrigerator?

5. What is the temperature at which water freezes?
6. What is the temperature at which water boils?

## PRACTICE



What temperature is the air outside?



What temperature is the air in the oven?

3. Draw a thermometer showing  $25^{\circ}\text{C}$ .

4. Draw a thermometer showing  $38^{\circ}\text{C}$ .

Add or subtract the temperatures.

5.  $14^{\circ}\text{C} + 3^{\circ}\text{C}$

6.  $24^{\circ}\text{C} + 9^{\circ}\text{C}$

7.  $16^{\circ}\text{C} - 8^{\circ}\text{C}$

8.  $25^{\circ}\text{C} - 13^{\circ}\text{C}$

## REVIEW

Add.

A5

1.  $\begin{array}{r} 8 \\ 3 \\ + 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 5 \\ 1 \\ + 3 \\ \hline \end{array}$

3.  $\begin{array}{r} 6 \\ 4 \\ + 7 \\ \hline \end{array}$

4.  $\begin{array}{r} 8 \\ 9 \\ + 7 \\ \hline \end{array}$

5.  $\begin{array}{r} 9 \\ 9 \\ + 1 \\ \hline \end{array}$

Subtract.

A6

6.  $\begin{array}{r} 65 \\ - 31 \\ \hline \end{array}$

7.  $\begin{array}{r} 28 \\ - 15 \\ \hline \end{array}$

8.  $\begin{array}{r} 56 \\ - 3 \\ \hline \end{array}$

9.  $\begin{array}{r} 95 \\ - 71 \\ \hline \end{array}$

10.  $\begin{array}{r} 34 \\ - 22 \\ \hline \end{array}$

A7

11.  $\begin{array}{r} 23 \\ - 5 \\ \hline \end{array}$

12.  $\begin{array}{r} 44 \\ - 9 \\ \hline \end{array}$

13.  $\begin{array}{r} 87 \\ - 8 \\ \hline \end{array}$

14.  $\begin{array}{r} 51 \\ - 6 \\ \hline \end{array}$

15.  $\begin{array}{r} 46 \\ - 8 \\ \hline \end{array}$

Add or subtract.

A8

16.  $\begin{array}{r} 614 \\ + 352 \\ \hline \end{array}$

17.  $\begin{array}{r} 749 \\ + 150 \\ \hline \end{array}$

18.  $\begin{array}{r} 865 \\ - 233 \\ \hline \end{array}$

19.  $\begin{array}{r} 345 \\ - 214 \\ \hline \end{array}$

20.  $\begin{array}{r} 648 \\ - 32 \\ \hline \end{array}$

# TEST

# UNIT 2

Add or subtract.

$$\begin{array}{r} 1. \quad 7 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 6 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 8 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 14 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 17 \\ - 9 \\ \hline \end{array}$$

$$6. \quad 6 + 9$$

$$7. \quad 8 + 8$$

$$8. \quad 12 - 5$$

$$9. \quad 15 - 7$$

$$\begin{array}{r} 10. \quad 28 \\ + 21 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 13 \\ + 74 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 65 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 26 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 94 \\ - 34 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 35 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 9 \\ + 16 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 87 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 64 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 47 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 1 \\ 4 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 5 \\ 4 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 8 \\ 5 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 24 \\ 14 \\ + 51 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 34 \\ 51 \\ + 12 \\ \hline \end{array}$$

$$25. \quad 5 + 3 + 2$$

$$26. \quad 7 + 6 + 8$$

$$27. \quad 29 + 5$$

$$28. \quad 82 - 9$$

$$\begin{array}{r} 29. \quad 763 \\ + 221 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 200 \\ + 409 \\ \hline \end{array}$$

$$\begin{array}{r} 31. \quad 580 \\ + 204 \\ \hline \end{array}$$

$$\begin{array}{r} 32. \quad 897 \\ - 101 \\ \hline \end{array}$$

$$\begin{array}{r} 33. \quad 556 \\ - 234 \\ \hline \end{array}$$

Solve.

34. There are 16 girls and 13 boys in Eva's class.  
How many people are in the class?

35. Max had 75¢ in his pocket before he went to the store.  
He spent 50¢.  
How much does he have left?

36. On Tuesday night the temperature was 19°C.  
During the night it fell 5°C.  
What was the temperature the next morning?



## NUMERATION

Copy each pair of numbers. Put  $<$ ,  $=$ , or  $>$  in place of the ■ to make a true statement.

- |                     |                     |                      |
|---------------------|---------------------|----------------------|
| 1. 43 ■ 34          | 2. 8 ■ 80           | 3. 26 ■ 26           |
| 4. 285 ■ 302        | 5. 659 ■ 695        | 6. 926 ■ 922         |
| 7. 3568 ■ 2435      | 8. 25 697 ■ 9875    | 9. 316 708 ■ 318 250 |
| 10. \$1.95 ■ \$3.87 | 11. \$2.06 ■ \$0.98 | 12. \$0.85 ■ \$0.85  |

Write in standard form.

- |  |                        |
|--|------------------------|
| 13. three hundred sixty-five                 | 14. eight hundred four |
| 15. 3 thousand + 4 hundred + 0 tens + 9 ones |                        |
| 16. 4000 + 600 + 20 + 7                      | 17. 9000 + 40 + 1      |
| 18. 200 000 + 60 000 + 3000 + 800 + 90 + 7   |                        |
| 19. 300 000 + 600 + 1                        |                        |

Write the place value of the underlined digit.

- |                     |                    |                     |                    |
|---------------------|--------------------|---------------------|--------------------|
| 20. 25 <u>9</u> 047 | 21. <u>6</u> 1 382 | 22. <u>5</u> 36 410 | 23. 89 <u>7</u> 12 |
|---------------------|--------------------|---------------------|--------------------|

Round to the nearest ten and hundred.

- |          |            |             |            |
|----------|------------|-------------|------------|
| 24. 1864 | 25. 35 029 | 26. 812 472 | 27. 50 973 |
|----------|------------|-------------|------------|

Write with numerals and an ordinal ending.

- |                  |                   |             |
|------------------|-------------------|-------------|
| 28. twenty-first | 29. eighty-second | 30. twelfth |
|------------------|-------------------|-------------|

Write the numeral in standard form.

- |        |          |          |        |         |
|--------|----------|----------|--------|---------|
| 31. IV | 32. XXIX | 33. XCII | 34. XV | 35. LXV |
|--------|----------|----------|--------|---------|

# UNIT 3

## ADDITION AND SUBTRACTION II





# Scorecards

Find the totals for each sport.

## BOWLING

Team A

Bob	142
Jan	124
Bill	131
Total	

Team B

Erik	93
Pat	205
Ed	100
Total	

Team C

Marj	184
Mark	111
Jean	104
Total	

## BASKETBALL

	Browns	Blues
First half	33	44
Second half	51	41
Total score		

	Ants	Anteaters
First half	55	27
Second half	31	60
Total score		

## DIVING

	Kay	Elsa	Barb	Maria	Sue	Carmen
First dive	40	32	24	24	30	40
Second dive	24	31	41	32	36	28
Third dive	30	32	31	41	32	31
Total						

## BASEBALL

Hits	Cal	Stan	Jon
First year	114	107	119
Second year	113	121	110
Total			
Errors	Cal	Stan	Jon
First year	24	20	28
Second year	13	18	11
Total			





# Regrouping Ones

Write the question.

Add ones.  
 $9 + 5 = 14$

$$\begin{array}{r} 39 \\ + 55 \\ \hline \end{array}$$

$$\begin{array}{r} 39 \\ + 55 \\ \hline \end{array}$$

14 is  
1 ten and 4 ones.

Write:

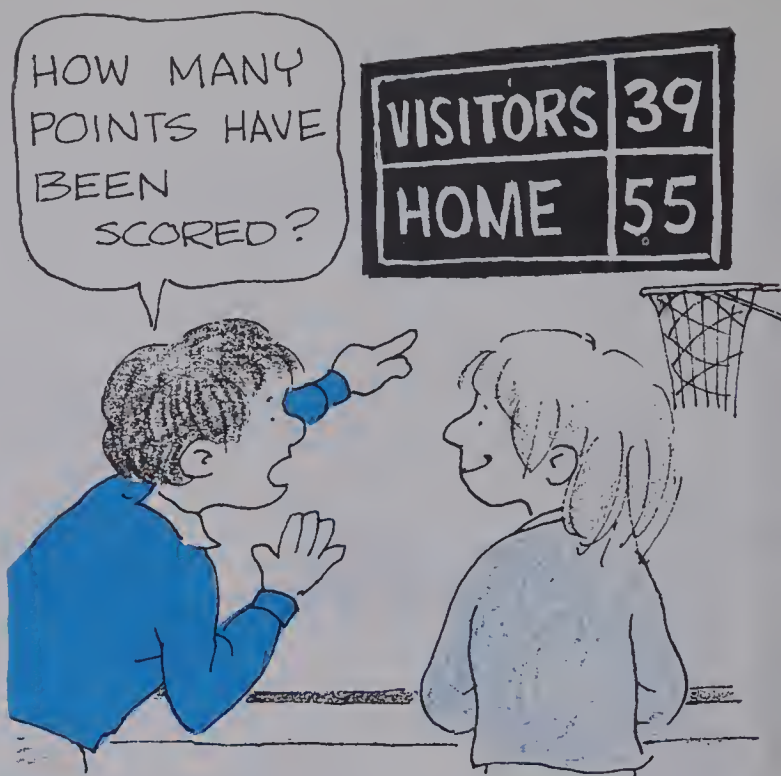
Add tens.

$$\begin{array}{r} 1 \\ 39 \\ + 55 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 1 \\ 39 \\ + 55 \\ \hline 94 \end{array}$$

$$\begin{array}{r} 39 \\ + 55 \\ \hline 94 \end{array}$$

94 points have been scored.



## EXERCISES

Add.

1.  $\begin{array}{r} 8 \\ + 7 \\ \hline \end{array}$

2.  $\begin{array}{r} 38 \\ + 7 \\ \hline \end{array}$

3.  $\begin{array}{r} 38 \\ + 47 \\ \hline \end{array}$

4.  $\begin{array}{r} 6 \\ + 5 \\ \hline \end{array}$

5.  $\begin{array}{r} 76 \\ + 5 \\ \hline \end{array}$

6.  $\begin{array}{r} 76 \\ + 15 \\ \hline \end{array}$

7.  $\begin{array}{r} 9 \\ + 6 \\ \hline \end{array}$

8.  $\begin{array}{r} 29 \\ + 6 \\ \hline \end{array}$

9.  $\begin{array}{r} 29 \\ + 26 \\ \hline \end{array}$

10.  $\begin{array}{r} 42 \\ + 48 \\ \hline \end{array}$

11.  $\begin{array}{r} 55 \\ + 27 \\ \hline \end{array}$

12.  $\begin{array}{r} 64 \\ + 28 \\ \hline \end{array}$

13.  $\begin{array}{r} 49 \\ + 39 \\ \hline \end{array}$

14.  $\begin{array}{r} 38 \\ + 58 \\ \hline \end{array}$

15.  $\begin{array}{r} 27 \\ + 37 \\ \hline \end{array}$

16.  $\begin{array}{r} 218 \\ + 19 \\ \hline \end{array}$

17.  $\begin{array}{r} 128 \\ + 236 \\ \hline \end{array}$

18.  $\begin{array}{r} 9 \\ + 437 \\ \hline \end{array}$

19.  $\begin{array}{r} 13 \\ 24 \\ + 35 \\ \hline \end{array}$

20.  $\begin{array}{r} 613 \\ 156 \\ + 114 \\ \hline \end{array}$

## PRACTICE

Find the sum.

- |                                 |                                  |                                   |                                   |                                  |
|---------------------------------|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|
| 1.     8<br>+ 65<br><u>   </u>  | 2.     19<br>+ 9<br><u>   </u>   | 3.     67<br>+ 25<br><u>   </u>   | 4.     9<br>+ 84<br><u>   </u>    | 5.     48<br>+ 22<br><u>   </u>  |
| 6.     28<br>+ 28<br><u>   </u> | 7.     26<br>+ 55<br><u>   </u>  | 8.     73<br>+ 19<br><u>   </u>   | 9.     57<br>+ 3<br><u>   </u>    | 10.    47<br>+ 47<br><u>   </u>  |
| 11.    138<br>+ 3<br><u>   </u> | 12.    229<br>+ 36<br><u>   </u> | 13.    185<br>+ 305<br><u>   </u> | 14.    752<br>+ 129<br><u>   </u> | 15.    68<br>+ 923<br><u>   </u> |

Solve.

16. During the first half of the hockey season, Robert scored 24 goals and had 27 assists. How many points did Robert have?
  
17. The girls' All-Star basketball team scored 45 points in one game and 49 points in the next game. How many points did the team score in the two games?
  
18. A football team scored 7 points in the first half and 17 points in the second half. How many points did the team score in the game?

## USING THE CALCULATOR

What digits are missing?

Check the results with a calculator.

- |                                       |                                       |  |  |  |
|---------------------------------------|---------------------------------------|--|--|--|
| 1.     36<br>+ ■5<br><u>   </u><br>61 | 2.     2■<br>+ 42<br><u>   </u><br>71 | 3.     2■5<br>+ 336<br><u>   </u><br>561 | 4.     ■44<br>+ 12■<br><u>   </u><br>671 | 5.     ■3■<br>+ 3■2<br><u>   </u><br>860 |
|---------------------------------------|---------------------------------------|--|--|--|

# Regrouping Tens



Write the question.

$$\begin{array}{r} 175 \\ + 151 \\ \hline \end{array}$$

Add ones.

$$\begin{array}{r} 175 \\ + 151 \\ \hline 6 \end{array}$$

Add tens.

$$\begin{array}{r} 175 \\ + 151 \\ \hline 126 \end{array}$$

12 tens is  
1 hundred and 2 tens.  
Regroup.

$$\begin{array}{r} 1 \\ 175 \\ + 151 \\ \hline 26 \end{array}$$

Add hundreds.

$$\begin{array}{r} 1 \\ 175 \\ + 151 \\ \hline 326 \end{array}$$

$$\begin{array}{r} 175 \\ + 151 \\ \hline 326 \end{array}$$

The total score for the 2 games is 326.

## EXERCISES

Add.

1.  $\begin{array}{r} 47 \\ + 60 \\ \hline \end{array}$

2.  $\begin{array}{r} 52 \\ + 64 \\ \hline \end{array}$

3.  $\begin{array}{r} 65 \\ + 83 \\ \hline \end{array}$

4.  $\begin{array}{r} 90 \\ + 33 \\ \hline \end{array}$

5.  $\begin{array}{r} 81 \\ + 84 \\ \hline \end{array}$

6.  $\begin{array}{r} 347 \\ + 60 \\ \hline \end{array}$

7.  $\begin{array}{r} 152 \\ + 64 \\ \hline \end{array}$

8.  $\begin{array}{r} 565 \\ + 83 \\ \hline \end{array}$

9.  $\begin{array}{r} 290 \\ + 33 \\ \hline \end{array}$

10.  $\begin{array}{r} 381 \\ + 84 \\ \hline \end{array}$

11.  $\begin{array}{r} 274 \\ + 382 \\ \hline \end{array}$

12.  $\begin{array}{r} 490 \\ + 255 \\ \hline \end{array}$

13.  $\begin{array}{r} 528 \\ + 191 \\ \hline \end{array}$

14.  $\begin{array}{r} 742 \\ + 170 \\ \hline \end{array}$

15.  $\begin{array}{r} 382 \\ + 382 \\ \hline \end{array}$

16.  $\begin{array}{r} 451 \\ + 450 \\ \hline \end{array}$

17.  $\begin{array}{r} 163 \\ + 466 \\ \hline \end{array}$

18.  $\begin{array}{r} 283 \\ + 571 \\ \hline \end{array}$

19.  $\begin{array}{r} 394 \\ + 482 \\ \hline \end{array}$

20.  $\begin{array}{r} 671 \\ + 291 \\ \hline \end{array}$



# PRACTICE

Find the sum.

$$\begin{array}{r} 1. \quad 52 \\ + 67 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 78 \\ + 91 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 43 \\ + 92 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 60 \\ + 84 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 35 \\ + 83 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 161 \\ + 263 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 472 \\ + 180 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 553 \\ + 283 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 661 \\ + 174 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 391 \\ + 267 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 274 \\ + 274 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 451 \\ + 478 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 584 \\ + 95 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 293 \\ \quad 91 \\ + 102 \\ \hline \end{array}$$

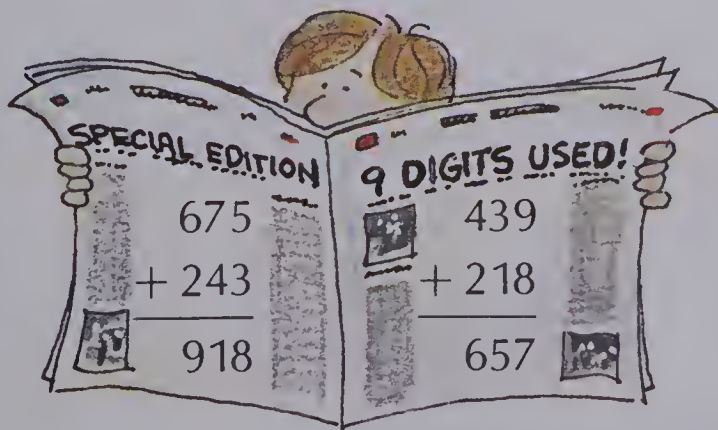
$$\begin{array}{r} 15. \quad 341 \\ \quad 245 \\ + 231 \\ \hline \end{array}$$

Solve.

16. During a bowling tournament, Sam scored 180 and 178 for his first two games. What was Sam's total score for these two games?
17. Joanne was practising for a bowling tournament and scored 189 and 191 on two games. What was her total score for the two games?

## Special Addition

Each addition question below uses all of the digits from 1 to 9. Each digit is used just once.



Make up other addition questions like the ones above.

# Regrouping Twice



WE'VE SOLD **586** HOT DOGS AND **259** HAMBURGERS! HOW MANY IS THAT ALTOGETHER?

Add ones.

$$\begin{array}{r} \text{1} \\ 586 \\ + 259 \\ \hline 5 \end{array}$$

Add tens.

$$\begin{array}{r} \text{1 1} \\ 586 \\ + 259 \\ \hline 45 \end{array}$$

Add hundreds.

$$\begin{array}{r} \text{1 1} \\ 586 \\ + 259 \\ \hline 845 \end{array}$$

$$\begin{array}{r} 586 \\ + 259 \\ \hline 845 \end{array}$$

Altogether, 845 hot dogs and hamburgers were sold.

## EXERCISES

Find the sum.

1.  $\begin{array}{r} 47 \\ + 47 \\ \hline \end{array}$

2.  $\begin{array}{r} 63 \\ + 17 \\ \hline \end{array}$

3.  $\begin{array}{r} 349 \\ + 209 \\ \hline \end{array}$

4.  $\begin{array}{r} 418 \\ + 278 \\ \hline \end{array}$

5.  $\begin{array}{r} 527 \\ + 159 \\ \hline \end{array}$

6.  $\begin{array}{r} 140 \\ + 291 \\ \hline \end{array}$

7.  $\begin{array}{r} 353 \\ + 172 \\ \hline \end{array}$

8.  $\begin{array}{r} 461 \\ + 284 \\ \hline \end{array}$

9.  $\begin{array}{r} 93 \\ + 85 \\ \hline \end{array}$

10.  $\begin{array}{r} 187 \\ + 62 \\ \hline \end{array}$

11.  $\begin{array}{r} 156 \\ + 268 \\ \hline \end{array}$

12.  $\begin{array}{r} 484 \\ + 199 \\ \hline \end{array}$

13.  $\begin{array}{r} 348 \\ + 165 \\ \hline \end{array}$

14.  $\begin{array}{r} 284 \\ + 576 \\ \hline \end{array}$

15.  $\begin{array}{r} 877 \\ + 186 \\ \hline \end{array}$

16.  $\begin{array}{r} 381 \\ + 589 \\ \hline \end{array}$

17.  $\begin{array}{r} 166 \\ + 269 \\ \hline \end{array}$

18.  $\begin{array}{r} 485 \\ + 355 \\ \hline \end{array}$

19.  $\begin{array}{r} 179 \\ + 335 \\ \hline \end{array}$

20.  $\begin{array}{r} 286 \\ + 245 \\ \hline \end{array}$

21.  $\begin{array}{r} 369 \\ + 38 \\ \hline \end{array}$

22.  $\begin{array}{r} 99 \\ + 254 \\ \hline \end{array}$

23.  $\begin{array}{r} 77 \\ 32 \\ + 13 \\ \hline \end{array}$

24.  $\begin{array}{r} 48 \\ 25 \\ + 43 \\ \hline \end{array}$

25.  $\begin{array}{r} 145 \\ 252 \\ + 115 \\ \hline \end{array}$

# PRACTICE

Add.

- |   |   |  |  |   |
|---|---|--|--|---|
| 1. $\begin{array}{r} 217 \\ + 688 \\ \hline \end{array}$  | 2. $\begin{array}{r} 526 \\ + 176 \\ \hline \end{array}$  | 3. $\begin{array}{r} 828 \\ + 82 \\ \hline \end{array}$  | 4. $\begin{array}{r} 51 \\ + 369 \\ \hline \end{array}$  | 5. $\begin{array}{r} 727 \\ + 195 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 335 \\ + 389 \\ \hline \end{array}$  | 7. $\begin{array}{r} 99 \\ + 688 \\ \hline \end{array}$   | 8. $\begin{array}{r} 493 \\ + 298 \\ \hline \end{array}$ | 9. $\begin{array}{r} 796 \\ + 109 \\ \hline \end{array}$ | 10. $\begin{array}{r} 258 \\ + 58 \\ \hline \end{array}$  |
| 11. $\begin{array}{r} 368 \\ + 154 \\ \hline \end{array}$ | 12. $\begin{array}{r} 482 \\ + 239 \\ \hline \end{array}$ | 13. $\begin{array}{r} 56 \\ + 95 \\ \hline \end{array}$  | 14. $\begin{array}{r} 248 \\ + 74 \\ \hline \end{array}$ | 15. $\begin{array}{r} 387 \\ + 219 \\ \hline \end{array}$ |

Solve.

16. During the first two rounds of an archery competition, May had scores of 296 and 288. What was her total score after two rounds?
17. Neil was practising for a trap-shooting competition. There are 200 clay birds in a round. He hit 197 clay birds the first round and 195 the second round. How many clay birds did he hit in the two rounds?

## Arithmetic Magic

Write any 3-digit numeral.

Reverse the order of the digits to make a second numeral.

Subtract the smaller from the larger.

Show any zeros.

Reverse the order of the digits in the answer.

Add.

Now try other 3-digit numerals.

Explain what you notice about the answers.

582

285

Subtract.

297

792

Add.

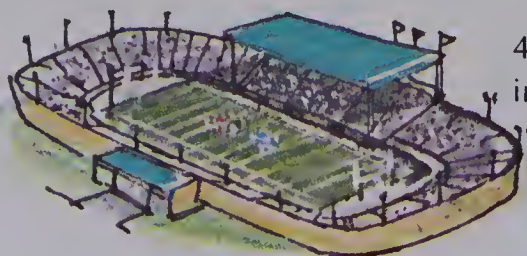
1089

Remember this answer.



# Four-Digit Addends

2239  
bleacher  
fans



4863 fans  
in main stands

How many fans are  
at the game?

Add  
ones.

$$\begin{array}{r} 1 \\ 4863 \\ + 2239 \\ \hline 2 \end{array}$$

Add  
tens.

$$\begin{array}{r} 11 \\ 4863 \\ + 2239 \\ \hline 02 \end{array}$$

Add  
hundreds.

$$\begin{array}{r} 111 \\ 4863 \\ + 2239 \\ \hline 102 \end{array}$$

Add  
thousands.

$$\begin{array}{r} 1111 \\ 4863 \\ + 2239 \\ \hline 7102 \end{array}$$

There are 7102 fans at the game.

## EXERCISES

Add.

1.  $\begin{array}{r} 6247 \\ + 1743 \\ \hline \end{array}$

2.  $\begin{array}{r} 4016 \\ + 4978 \\ \hline \end{array}$

3.  $\begin{array}{r} 1620 \\ + 3291 \\ \hline \end{array}$

4.  $\begin{array}{r} 3294 \\ + 2291 \\ \hline \end{array}$

5.  $\begin{array}{r} 2424 \\ + 1925 \\ \hline \end{array}$

6.  $\begin{array}{r} 5621 \\ + 2099 \\ \hline \end{array}$

7.  $\begin{array}{r} 2565 \\ + 1506 \\ \hline \end{array}$

8.  $\begin{array}{r} 3043 \\ + 4258 \\ \hline \end{array}$

9.  $\begin{array}{r} 2772 \\ + 5266 \\ \hline \end{array}$

10.  $\begin{array}{r} 4656 \\ + 2517 \\ \hline \end{array}$

11.  $\begin{array}{r} 5998 \\ + 1123 \\ \hline \end{array}$

12.  $\begin{array}{r} 3494 \\ + 1729 \\ \hline \end{array}$

13.  $\begin{array}{r} 1218 \\ + 6782 \\ \hline \end{array}$

14.  $\begin{array}{r} 4357 \\ + 1948 \\ \hline \end{array}$

15.  $\begin{array}{r} 2189 \\ + 3946 \\ \hline \end{array}$

16.  $\begin{array}{r} 6659 \\ + 2452 \\ \hline \end{array}$

17.  $\begin{array}{r} 5427 \\ + 2673 \\ \hline \end{array}$

18.  $\begin{array}{r} 3043 \\ + 4959 \\ \hline \end{array}$

19.  $\begin{array}{r} 4237 \\ + 4985 \\ \hline \end{array}$

20.  $\begin{array}{r} 2487 \\ + 1655 \\ \hline \end{array}$

21.  $\begin{array}{r} 484 \\ + 5646 \\ \hline \end{array}$

22.  $\begin{array}{r} 121 \\ 3594 \\ + 5609 \\ \hline \end{array}$

23.  $\begin{array}{r} 204 \\ 788 \\ + 585 \\ \hline \end{array}$

24.  $\begin{array}{r} 7945 \\ + 655 \\ \hline \end{array}$

25.  $\begin{array}{r} 1225 \\ + 888 \\ \hline \end{array}$

## PRACTICE

Add.

$$\begin{array}{r} 1. \quad 3768 \\ + 4963 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 2949 \\ + 958 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 785 \\ + 6427 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 3726 \\ + 1996 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 586 \\ + 1768 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 8563 \\ + 658 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 4185 \\ + 4915 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 5969 \\ + 3783 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 2568 \\ + 2568 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 945 \\ + 1479 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 1878 \\ + 442 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 5119 \\ + 3885 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 3338 \\ + 4775 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 4368 \\ + 632 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 3669 \\ + 1872 \\ \hline \end{array}$$

Solve.

16. A crowd of 2234 people watched the first day of a tennis tournament. The next day, a sell-out crowd of 3978 attended the matches. How many fans watched the two days of tennis?

17. The food stand at a baseball game sold 1256 boxes of buttered popcorn and 958 boxes of plain popcorn during a doubleheader. How many boxes of popcorn were sold in all?

## Back to Front

Some numbers read the same from right to left and from left to right.

121

55

1881

Take any whole number.

Reverse the digits.

Add.

Does the sum read the same backward and forward?

If not, repeat the steps.

Keep doing this until the sum reads the same backward and forward.



$$\begin{array}{r} 24 \\ + 42 \\ \hline 66 \end{array}$$



$$\begin{array}{r} 37 \\ + 73 \\ \hline 110 \\ 011 \\ \hline 121 \end{array}$$

Can you find a number that does not do this?

# Two-Place Subtraction



Home      Visitors

64

48

By how many points did our team win?

Write the question.

$$\begin{array}{r} 64 \\ - 48 \\ \hline \end{array}$$

Regroup tens and ones.

$$\begin{array}{r} 5 \text{ } 14 \\ \cancel{6} \cancel{4} \\ - 48 \\ \hline \end{array}$$

Subtract ones.

$$\begin{array}{r} 5 \text{ } 14 \\ \cancel{6} \cancel{4} \\ - 48 \\ \hline 6 \end{array}$$

Subtract tens.

$$\begin{array}{r} 5 \text{ } 14 \\ \cancel{6} \cancel{4} \\ - 48 \\ \hline 16 \end{array}$$

Our team won by 16 points.

## EXERCISES

Subtract.

1.  $\begin{array}{r} 14 \\ - 6 \\ \hline \end{array}$

2.  $\begin{array}{r} 24 \\ - 6 \\ \hline \end{array}$

3.  $\begin{array}{r} 24 \\ - 16 \\ \hline \end{array}$

4.  $\begin{array}{r} 34 \\ - 16 \\ \hline \end{array}$

5.  $\begin{array}{r} 44 \\ - 26 \\ \hline \end{array}$

6.  $\begin{array}{r} 18 \\ - 9 \\ \hline \end{array}$

7.  $\begin{array}{r} 28 \\ - 9 \\ \hline \end{array}$

8.  $\begin{array}{r} 28 \\ - 19 \\ \hline \end{array}$

9.  $\begin{array}{r} 38 \\ - 19 \\ \hline \end{array}$

10.  $\begin{array}{r} 58 \\ - 19 \\ \hline \end{array}$

11.  $\begin{array}{r} 16 \\ - 7 \\ \hline \end{array}$

12.  $\begin{array}{r} 56 \\ - 7 \\ \hline \end{array}$

13.  $\begin{array}{r} 56 \\ - 37 \\ \hline \end{array}$

14.  $\begin{array}{r} 13 \\ - 8 \\ \hline \end{array}$

15.  $\begin{array}{r} 43 \\ - 28 \\ \hline \end{array}$

16.  $\begin{array}{r} 94 \\ - 26 \\ \hline \end{array}$

17.  $\begin{array}{r} 42 \\ - 18 \\ \hline \end{array}$

18.  $\begin{array}{r} 76 \\ - 29 \\ \hline \end{array}$

19.  $\begin{array}{r} 53 \\ - 27 \\ \hline \end{array}$

20.  $\begin{array}{r} 85 \\ - 15 \\ \hline \end{array}$

21.  $\begin{array}{r} 65 \\ - 39 \\ \hline \end{array}$

22.  $\begin{array}{r} 88 \\ - 49 \\ \hline \end{array}$

23.  $\begin{array}{r} 40 \\ - 24 \\ \hline \end{array}$

24.  $\begin{array}{r} 52 \\ - 48 \\ \hline \end{array}$

25.  $\begin{array}{r} 80 \\ - 53 \\ \hline \end{array}$



## PRACTICE

Find the difference.

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. $\begin{array}{r} 73 \\ - 39 \\ \hline \end{array}$  | 2. $\begin{array}{r} 31 \\ - 19 \\ \hline \end{array}$  | 3. $\begin{array}{r} 22 \\ - 4 \\ \hline \end{array}$   | 4. $\begin{array}{r} 91 \\ - 18 \\ \hline \end{array}$  | 5. $\begin{array}{r} 88 \\ - 49 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 55 \\ - 29 \\ \hline \end{array}$  | 7. $\begin{array}{r} 97 \\ - 68 \\ \hline \end{array}$  | 8. $\begin{array}{r} 34 \\ - 9 \\ \hline \end{array}$   | 9. $\begin{array}{r} 85 \\ - 36 \\ \hline \end{array}$  | 10. $\begin{array}{r} 92 \\ - 27 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 62 \\ - 35 \\ \hline \end{array}$ | 12. $\begin{array}{r} 83 \\ - 28 \\ \hline \end{array}$ | 13. $\begin{array}{r} 81 \\ - 72 \\ \hline \end{array}$ | 14. $\begin{array}{r} 90 \\ - 54 \\ \hline \end{array}$ | 15. $\begin{array}{r} 52 \\ - 8 \\ \hline \end{array}$  |

Solve.

16. The final score in a basketball game was 83 to 67. How many more points did the winners score than the losers?
17. The girls' team beat the boys' team in softball by a score of 22 to 14. By how many points did the girls' team win?

## REVIEW

Add.

- |     |   |   |  |  |   |
|-----|---|---|--|--|---|
| A9  | 1. $\begin{array}{r} 58 \\ + 32 \\ \hline \end{array}$      | 2. $\begin{array}{r} 16 \\ + 5 \\ \hline \end{array}$       | 3. $\begin{array}{r} 44 \\ + 29 \\ \hline \end{array}$     | 4. $\begin{array}{r} 133 \\ + 247 \\ \hline \end{array}$   | 5. $\begin{array}{r} 386 \\ + 9 \\ \hline \end{array}$      |
| A10 | 6. $\begin{array}{r} 671 \\ + 236 \\ \hline \end{array}$    | 7. $\begin{array}{r} 550 \\ + 290 \\ \hline \end{array}$    | 8. $\begin{array}{r} 135 \\ + 82 \\ \hline \end{array}$    | 9. $\begin{array}{r} 366 \\ + 252 \\ \hline \end{array}$   | 10. $\begin{array}{r} 292 \\ + 46 \\ \hline \end{array}$    |
| A11 | 11. $\begin{array}{r} 185 \\ + 377 \\ \hline \end{array}$   | 12. $\begin{array}{r} 726 \\ + 199 \\ \hline \end{array}$   | 13. $\begin{array}{r} 434 \\ + 98 \\ \hline \end{array}$   | 14. $\begin{array}{r} 512 \\ + 88 \\ \hline \end{array}$   | 15. $\begin{array}{r} 675 \\ + 125 \\ \hline \end{array}$   |
| A12 | 16. $\begin{array}{r} 2468 \\ + 4753 \\ \hline \end{array}$ | 17. $\begin{array}{r} 3694 \\ + 3826 \\ \hline \end{array}$ | 18. $\begin{array}{r} 5395 \\ + 607 \\ \hline \end{array}$ | 19. $\begin{array}{r} 8268 \\ + 759 \\ \hline \end{array}$ | 20. $\begin{array}{r} 6582 \\ + 1929 \\ \hline \end{array}$ |

# Three-Place Subtraction

482 boys  
156 girls



How many more boys?

Regroup tens  
and ones.

$$\begin{array}{r} 7 \ 12 \\ 4 \cancel{8} \cancel{2} \\ - 1 \ 5 \ 6 \\ \hline \end{array}$$

Subtract  
ones.

$$\begin{array}{r} 7 \ 12 \\ 4 \cancel{8} \cancel{2} \\ - 1 \ 5 \ 6 \\ \hline 6 \end{array}$$

Subtract  
tens.

$$\begin{array}{r} 7 \ 12 \\ 4 \cancel{8} \cancel{2} \\ - 1 \ 5 \ 6 \\ \hline 2 \ 6 \end{array}$$

Subtract  
hundreds.

$$\begin{array}{r} 7 \ 12 \\ 4 \cancel{8} \cancel{2} \\ - 1 \ 5 \ 6 \\ \hline 3 \ 2 \ 6 \end{array}$$

There were 326 more boys than girls.

## EXERCISES

Subtract.

1.  $\begin{array}{r} 12 \\ - 4 \\ \hline \end{array}$

2.  $\begin{array}{r} 62 \\ - 14 \\ \hline \end{array}$

3.  $\begin{array}{r} 762 \\ - 114 \\ \hline \end{array}$

4.  $\begin{array}{r} 15 \\ - 6 \\ \hline \end{array}$

5.  $\begin{array}{r} 45 \\ - 16 \\ \hline \end{array}$

6.  $\begin{array}{r} 845 \\ - 216 \\ \hline \end{array}$

7.  $\begin{array}{r} 16 \\ - 9 \\ \hline \end{array}$

8.  $\begin{array}{r} 56 \\ - 39 \\ \hline \end{array}$

9.  $\begin{array}{r} 756 \\ - 339 \\ \hline \end{array}$

10.  $\begin{array}{r} 336 \\ - 119 \\ \hline \end{array}$

11.  $\begin{array}{r} 715 \\ - 209 \\ \hline \end{array}$

12.  $\begin{array}{r} 523 \\ - 207 \\ \hline \end{array}$

13.  $\begin{array}{r} 853 \\ - 646 \\ \hline \end{array}$

14.  $\begin{array}{r} 597 \\ - 169 \\ \hline \end{array}$

15.  $\begin{array}{r} 543 \\ - 227 \\ \hline \end{array}$

16.  $\begin{array}{r} 916 \\ - 607 \\ \hline \end{array}$

17.  $\begin{array}{r} 250 \\ - 139 \\ \hline \end{array}$

18.  $\begin{array}{r} 996 \\ - 88 \\ \hline \end{array}$

19.  $\begin{array}{r} 520 \\ - 405 \\ \hline \end{array}$

20.  $\begin{array}{r} 492 \\ - 69 \\ \hline \end{array}$

21.  $\begin{array}{r} 945 \\ - 529 \\ \hline \end{array}$

22.  $\begin{array}{r} 650 \\ - 418 \\ \hline \end{array}$

23.  $\begin{array}{r} 743 \\ - 115 \\ \hline \end{array}$

24.  $\begin{array}{r} 861 \\ - 833 \\ \hline \end{array}$

25.  $\begin{array}{r} 492 \\ - 57 \\ \hline \end{array}$

# PRACTICE

Find the difference.

$$\begin{array}{r} 1. \quad 361 \\ - 146 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 791 \\ - 424 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 272 \\ - 15 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 374 \\ - 347 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 833 \\ - 515 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 843 \\ - 626 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 992 \\ - 48 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 796 \\ - 389 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 480 \\ - 56 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 372 \\ - 45 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 185 \\ - 148 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 560 \\ - 126 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 641 \\ - 622 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 470 \\ - 41 \\ \hline \end{array}$$

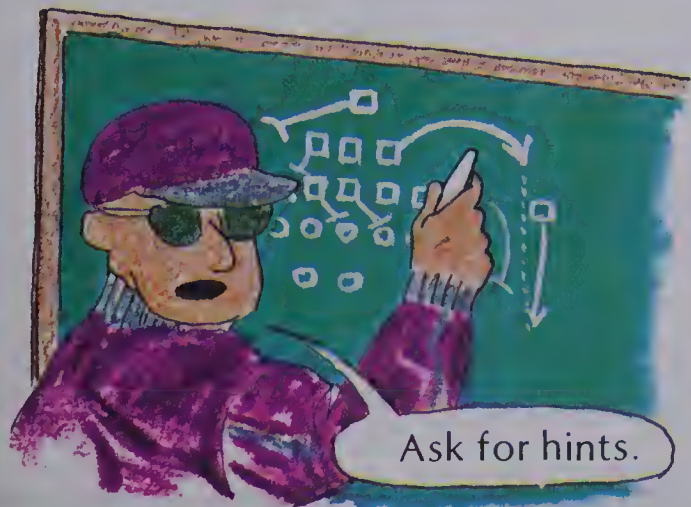
$$\begin{array}{r} 15. \quad 593 \\ - 65 \\ \hline \end{array}$$

Solve.

16. Greg won a springboard diving contest. He scored 352 points. The second place finisher scored 328 points. By how many points did Greg win the competition?
17. The score of a perfect game in 5-pin bowling is 450. Carla rolled a 326 game. How many points less than a perfect game did she score?

## What Comes Next?

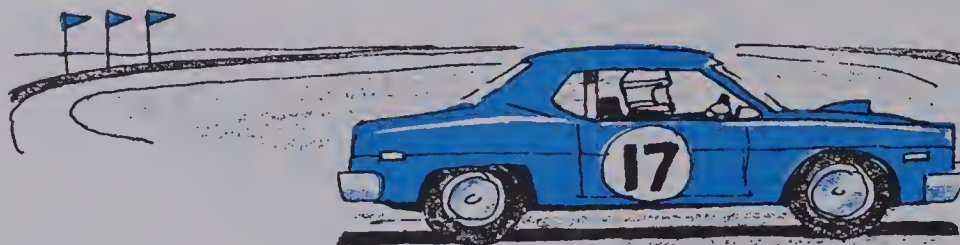
Can you continue these patterns?  
What is the rule for each pattern?



- (a) 73, 63, 53, 43, ■, ■, ■, 3
- (b) 2, 2, 4, 6, 10, 16, ■, ■, ■, 110
- (c) 100, 91, 83, 76, ■, ■, ■, 58
- (d) 9, 8, 10, 9, 11, 10, ■, ■, ■, 12
- (e) 200, 136, 104, 88, ■, ■, ■, 73
- (f) 100, 81, 64, 49, ■, ■, ■, 9
- (g) 5, 10, 20, 40, ■, ■, ■, 640
- (h) F, S, T, F, F, S, ■, ■, ■, T, E, T



# Regrouping Hundreds



First day      Second day  
321 laps      158 laps

How many more laps  
on the first day?

Regroup tens  
and ones.

$$\begin{array}{r} 1 \text{ } 11 \\ 3 \cancel{2} \cancel{1} \\ - 158 \\ \hline \end{array}$$

Subtract  
ones.

$$\begin{array}{r} 1 \text{ } 11 \\ 3 \cancel{2} \cancel{1} \\ - 158 \\ \hline 3 \end{array}$$

Regroup.  
Subtract tens.

$$\begin{array}{r} 2 \text{ } 11 \text{ } 11 \\ \cancel{3} \cancel{2} \cancel{1} \\ - 158 \\ \hline 63 \end{array}$$

Subtract  
hundreds.

$$\begin{array}{r} 2 \text{ } 11 \text{ } 11 \\ \cancel{3} \cancel{2} \cancel{1} \\ - 158 \\ \hline 163 \end{array}$$

The car did 163 more laps on the first day.

## EXERCISES

Subtract.

1. 
$$\begin{array}{r} 953 \\ - 328 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 343 \\ - 214 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 685 \\ - 466 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 374 \\ - 158 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 887 \\ - 339 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 642 \\ - 351 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 524 \\ - 342 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 962 \\ - 170 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 585 \\ - 294 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 737 \\ - 283 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 278 \\ - 199 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 456 \\ - 358 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 915 \\ - 358 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 581 \\ - 298 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 894 \\ - 685 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 711 \\ - 632 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 502 \\ - 155 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 953 \\ - 584 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 801 \\ - 444 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 612 \\ - 208 \\ \hline \end{array}$$

21. 
$$\begin{array}{r} 410 \\ - 257 \\ \hline \end{array}$$

22. 
$$\begin{array}{r} 813 \\ - 95 \\ \hline \end{array}$$

23. 
$$\begin{array}{r} 200 \\ - 77 \\ \hline \end{array}$$

24. 
$$\begin{array}{r} 541 \\ - 479 \\ \hline \end{array}$$

25. 
$$\begin{array}{r} 600 \\ - 489 \\ \hline \end{array}$$

## PRACTICE

Write the difference.

$$\begin{array}{r} 1. \quad 424 \\ - 395 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 258 \\ - 189 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 344 \\ - 186 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 633 \\ - 288 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 725 \\ - 148 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 521 \\ - 432 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 980 \\ - 583 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 327 \\ - 98 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 530 \\ - 234 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 754 \\ - 66 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 300 \\ - 114 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 762 \\ - 565 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 604 \\ - 312 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 920 \\ - 336 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 205 \\ - 98 \\ \hline \end{array}$$

Solve.

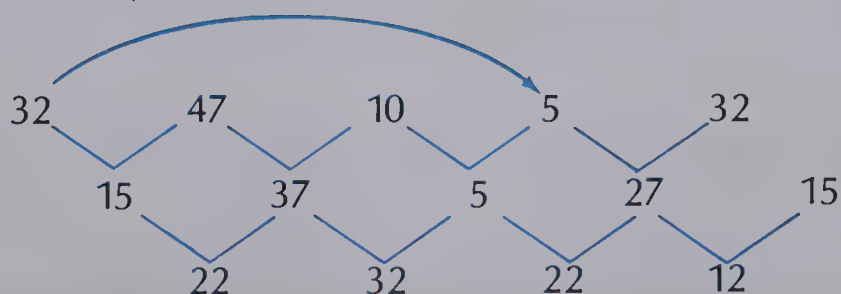
16. Students trained for a race during noon hour each day for one week. The members of the Red team ran a total of 258 laps and the Green team 302 laps. How many more laps did the Green team run?
17. In the saddle bronc competition, Joe scored 76 and 67 points on his two rides. Mel scored 79 points on his first ride. How many points does Mel have to score to beat Joe?

## A Surprise Ending

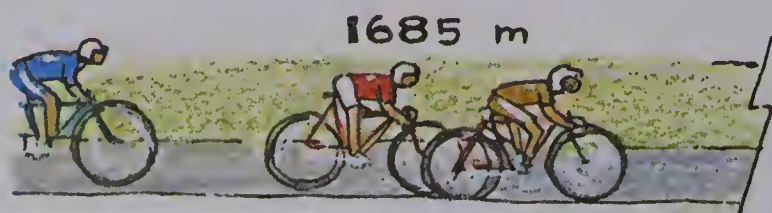
Start with any four whole numbers, for example, 32, 47, 10, and 5.

Find the difference between the first and second numbers, the second and third, the third and the fourth, and the fourth and the first.

Continue subtracting this way as long as you can.



# Four-Place Subtraction



Regroup.  
Subtract  
ones.

$$\begin{array}{r} 3 \text{ } 12 \\ 5 \text{ } 2 \text{ } \cancel{4} \text{ } \cancel{2} \\ - 1 \text{ } 6 \text{ } 8 \text{ } 5 \\ \hline 7 \end{array}$$

Regroup.  
Subtract  
tens.

$$\begin{array}{r} 1 \text{ } 13 \text{ } 12 \\ 5 \text{ } \cancel{2} \text{ } \cancel{4} \text{ } \cancel{2} \\ - 1 \text{ } 6 \text{ } 8 \text{ } 5 \\ \hline 5 \text{ } 7 \end{array}$$

Regroup.  
Subtract  
hundreds.

$$\begin{array}{r} 4 \text{ } 11 \text{ } 13 \text{ } 12 \\ \cancel{5} \text{ } \cancel{2} \text{ } \cancel{4} \text{ } \cancel{2} \\ - 1 \text{ } 6 \text{ } 8 \text{ } 5 \\ \hline 5 \text{ } 5 \text{ } 7 \end{array}$$

Subtract  
thousands.

$$\begin{array}{r} 4 \text{ } 11 \text{ } 13 \text{ } 12 \\ \cancel{5} \text{ } \cancel{2} \text{ } \cancel{4} \text{ } \cancel{2} \\ - 1 \text{ } 6 \text{ } 8 \text{ } 5 \\ \hline 3 \text{ } 5 \text{ } 5 \text{ } 7 \end{array}$$

There are 3557 m left in the race.

## EXERCISES

Subtract.

1.  $\begin{array}{r} 7288 \\ - 5482 \\ \hline \end{array}$

2.  $\begin{array}{r} 5465 \\ - 2813 \\ \hline \end{array}$

3.  $\begin{array}{r} 4632 \\ - 1911 \\ \hline \end{array}$

4.  $\begin{array}{r} 5478 \\ - 1947 \\ \hline \end{array}$

5.  $\begin{array}{r} 7362 \\ - 2651 \\ \hline \end{array}$

6.  $\begin{array}{r} 9236 \\ - 6394 \\ \hline \end{array}$

7.  $\begin{array}{r} 2848 \\ - 1865 \\ \hline \end{array}$

8.  $\begin{array}{r} 9157 \\ - 3283 \\ \hline \end{array}$

9.  $\begin{array}{r} 8912 \\ - 4921 \\ \hline \end{array}$

10.  $\begin{array}{r} 6145 \\ - 5782 \\ \hline \end{array}$

11.  $\begin{array}{r} 4382 \\ - 2693 \\ \hline \end{array}$

12.  $\begin{array}{r} 5271 \\ - 1893 \\ \hline \end{array}$

13.  $\begin{array}{r} 2926 \\ - 1958 \\ \hline \end{array}$

14.  $\begin{array}{r} 8223 \\ - 4344 \\ \hline \end{array}$

15.  $\begin{array}{r} 6134 \\ - 2587 \\ \hline \end{array}$

16.  $\begin{array}{r} 5051 \\ - 3264 \\ \hline \end{array}$

17.  $\begin{array}{r} 8543 \\ - 6889 \\ \hline \end{array}$

18.  $\begin{array}{r} 4103 \\ - 3469 \\ \hline \end{array}$

19.  $\begin{array}{r} 6321 \\ - 544 \\ \hline \end{array}$

20.  $\begin{array}{r} 6805 \\ - 4866 \\ \hline \end{array}$

21.  $\begin{array}{r} 2300 \\ - 1811 \\ \hline \end{array}$

22.  $\begin{array}{r} 6080 \\ - 4281 \\ \hline \end{array}$

23.  $\begin{array}{r} 7600 \\ - 848 \\ \hline \end{array}$

24.  $\begin{array}{r} 6338 \\ - 789 \\ \hline \end{array}$

25.  $\begin{array}{r} 4000 \\ - 2553 \\ \hline \end{array}$



## PRACTICE

Write the difference.

- |   |   |  |  |   |
|---|---|--|--|---|
| 1. $\begin{array}{r} 3582 \\ - 2823 \\ \hline \end{array}$  | 2. $\begin{array}{r} 8167 \\ - 5493 \\ \hline \end{array}$  | 3. $\begin{array}{r} 4278 \\ - 1985 \\ \hline \end{array}$ | 4. $\begin{array}{r} 8431 \\ - 651 \\ \hline \end{array}$  | 5. $\begin{array}{r} 9181 \\ - 2468 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 6970 \\ - 2871 \\ \hline \end{array}$  | 7. $\begin{array}{r} 9460 \\ - 8881 \\ \hline \end{array}$  | 8. $\begin{array}{r} 7815 \\ - 2147 \\ \hline \end{array}$ | 9. $\begin{array}{r} 4352 \\ - 1456 \\ \hline \end{array}$ | 10. $\begin{array}{r} 2333 \\ - 446 \\ \hline \end{array}$  |
| 11. $\begin{array}{r} 8721 \\ - 1932 \\ \hline \end{array}$ | 12. $\begin{array}{r} 5085 \\ - 4297 \\ \hline \end{array}$ | 13. $\begin{array}{r} 1224 \\ - 358 \\ \hline \end{array}$ | 14. $\begin{array}{r} 5003 \\ - 827 \\ \hline \end{array}$ | 15. $\begin{array}{r} 4030 \\ - 2642 \\ \hline \end{array}$ |

Solve.

16. A cross-country race had 1244 competitors. 758 of the runners were men. How many women runners entered the race?
17. One of the races of the Olympic Games is the 1500 m run. When a runner has completed 925 m of the race, how much farther must he or she still run?

## Limited Subtraction

This subtraction question has the same three digits (4, 5, and 9) in each numeral. The digits are in different orders.

$$\begin{array}{r} 954 \\ - 459 \\ \hline 495 \end{array}$$

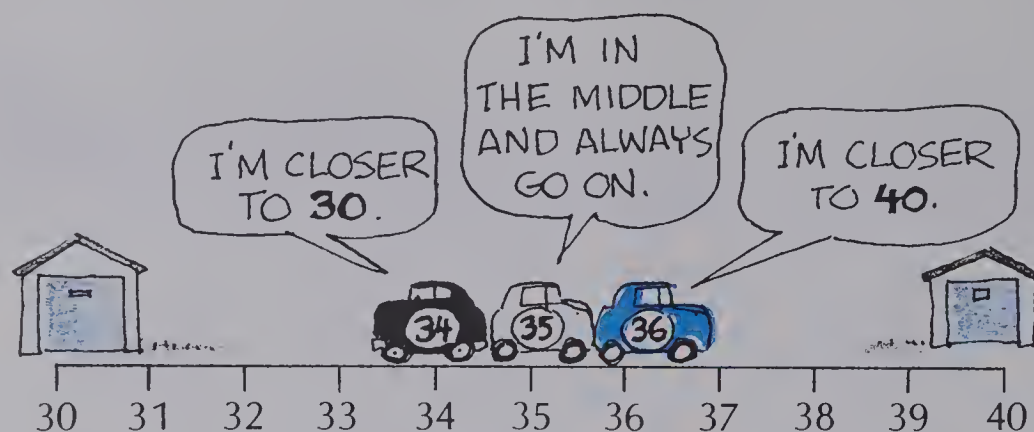
Each exercise has the same digits in each numeral. Try them.

a.  $\begin{array}{r} 58\ 923 \\ - 32\ 985 \\ \hline \end{array}$

b.  $\begin{array}{r} 8\ 172\ 396 \\ - 6\ 932\ 718 \\ \hline \end{array}$

c.  $\begin{array}{r} 987\ 654\ 321 \\ - 123\ 456\ 789 \\ \hline \end{array}$

# Rounding for Estimation



$$34 + 35 = \blacksquare$$

Estimate the sum of 34 and 35.

To do this, round 34 and 35 to the nearest ten.

34 rounds to 30.      35 rounds to 40.

The sum of the rounded numbers is 70.

The estimated sum of 34 and 35 is 70.

## EXERCISES

Round each number to the nearest ten.

- |       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 1. 44 | 2. 67 | 3. 29 | 4. 81 | 5. 75 |
|-------|-------|-------|-------|-------|

Round each number to the nearest hundred.

- |         |         |         |         |         |
|---------|---------|---------|---------|---------|
| 6. 649  | 7. 661  | 8. 650  | 9. 635  | 10. 684 |
| 11. 786 | 12. 132 | 13. 383 | 14. 451 | 15. 857 |

Round each number to the nearest thousand.

- |          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 16. 3254 | 17. 2499 | 18. 6627 | 19. 7501 | 20. 9012 |
|----------|----------|----------|----------|----------|

Round each number to the nearest ten.

Find the estimated sum or difference of the numbers.

- |        |        |        |        |        |
|--------|--------|--------|--------|--------|
| 21. 44 | 22. 63 | 23. 15 | 24. 91 | 25. 52 |
| + 38   | + 32   | + 26   | - 47   | - 14   |

Round each number to the nearest hundred.

Find the estimated sum or difference of the numbers.

- |         |         |         |         |         |
|---------|---------|---------|---------|---------|
| 26. 296 | 27. 443 | 28. 108 | 29. 769 | 30. 948 |
| + 272   | + 328   | + 667   | - 555   | - 261   |

# PRACTICE

Find the estimated sum or difference of the numbers.

Round each number to the nearest ten.

1.  $\begin{array}{r} 23 \\ + 50 \\ \hline \end{array}$

2.  $\begin{array}{r} 19 \\ + 31 \\ \hline \end{array}$

3.  $\begin{array}{r} 35 \\ + 45 \\ \hline \end{array}$

4.  $\begin{array}{r} 73 \\ - 6 \\ \hline \end{array}$

5.  $\begin{array}{r} 69 \\ - 16 \\ \hline \end{array}$

Round each number to the nearest hundred.

6.  $\begin{array}{r} 467 \\ + 324 \\ \hline \end{array}$

7.  $\begin{array}{r} 684 \\ + 108 \\ \hline \end{array}$

8.  $\begin{array}{r} 524 \\ + 329 \\ \hline \end{array}$

9.  $\begin{array}{r} 832 \\ - 448 \\ \hline \end{array}$

10.  $\begin{array}{r} 754 \\ - 260 \\ \hline \end{array}$

Round each number to the nearest thousand.

11.  $\begin{array}{r} 2521 \\ + 1843 \\ \hline \end{array}$

12.  $\begin{array}{r} 3294 \\ + 6182 \\ \hline \end{array}$

13.  $\begin{array}{r} 4529 \\ - 3259 \\ \hline \end{array}$

14.  $\begin{array}{r} 8704 \\ - 3516 \\ \hline \end{array}$

15.  $\begin{array}{r} 4016 \\ - 1773 \\ \hline \end{array}$

Solve.

16. Jewel bowled two games. The scores in the two games were 189 and 216. Estimate her total score.

## Treasure Hunt

Follow the paths from the tree to the treasures. Round each number on the path to the nearest hundred. Add the rounded numbers to find the amount in the treasure chest. Which treasure is the most valuable?



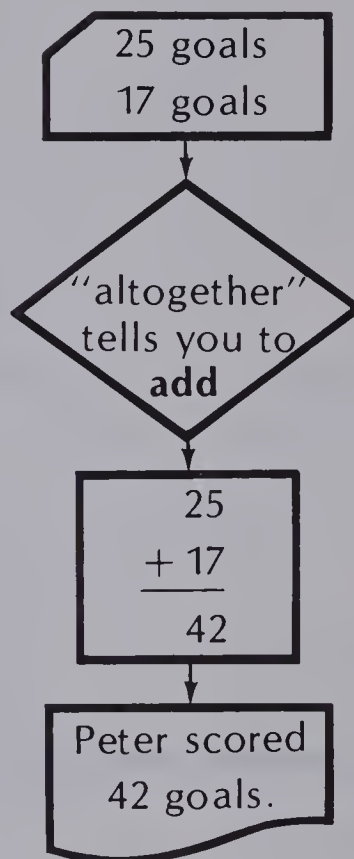


# Solving Problems



Peter scored 25 goals in the first half of the hockey season.  
He scored 17 goals in the second half.  
How many goals did he score altogether?

- 1 Read the problem.  
List the **facts**.
- 2 Look for key words.  
**Decide** what to do.
- 3 Do the **arithmetic**.
- 4 **Answer** the question.



## EXERCISES

Solve.

1. Joan scored **36 field goals** in the first part of the season and **14** in the second. What was her **total**?  
Facts: 36 field goals, 14 field goals.  
Decide: "total" tells you to ■.  
Arithmetic:  
Answer:
2. Joe hit **62 home runs** this season and **42** last season.  
**How many more** did he hit this season?
3. In a dart game, Ron scored **150 points** and Anna scored **225**.  
**By how much** did Anna win?

# PRACTICE

Solve these problems.

- Henry scored 47 goals in the first half of the hockey season. His teammate Jon scored 35. How many more goals did Henry score?
- Wendy and Wally bowl together on a team. In one of their best games Wendy scored 246 points and Wally scored 235. What was their total score in that game?
- In the 1976 Summer Olympic Games, the Soviet Union won 125 medals, East Germany won 90 medals, and Poland won 25. How many medals did these three countries win altogether?
- In a golf tournament Mildred scored 325 and Steven 298. By how much did Steven win?

# REVIEW

Subtract.

A13

$$\begin{array}{r} 1. \quad 33 \\ - 18 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 88 \\ - 49 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 72 \\ - 63 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 67 \\ - 29 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 70 \\ - 72 \\ \hline \end{array}$$

A14

$$\begin{array}{r} 6. \quad 737 \\ - 419 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 572 \\ - 364 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 855 \\ - 426 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 221 \\ - 107 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 910 \\ - 409 \\ \hline \end{array}$$

A15

$$\begin{array}{r} 11. \quad 854 \\ - 579 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 385 \\ - 289 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 662 \\ - 489 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 521 \\ - 348 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 900 \\ - 783 \\ \hline \end{array}$$

A16

$$\begin{array}{r} 16. \quad 8642 \\ - 3865 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 7120 \\ - 4459 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 3116 \\ - 1789 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 5315 \\ - 2428 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 6800 \\ - 2932 \\ \hline \end{array}$$

# TEST

# UNIT 3

Add.

$$\begin{array}{r} 1. \quad 89 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 58 \\ + 13 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 45 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 34 \\ + 758 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 43 \\ + 82 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 56 \\ + 92 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 763 \\ + 95 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 295 \\ + 410 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 14 \\ 51 \\ + 28 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 208 \\ 419 \\ + 357 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 55 \\ 60 \\ + 42 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 431 \\ 74 \\ + 290 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 65 \\ + 59 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 417 \\ + 488 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 96 \\ 82 \\ + 35 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 245 \\ 306 \\ + 172 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 2806 \\ + 199 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 3868 \\ + 5277 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 5944 \\ + 1376 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 4173 \\ 825 \\ + 2694 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 21. \quad 38 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 70 \\ - 46 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 82 \\ - 53 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 496 \\ - 79 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad 755 \\ - 326 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 320 \\ - 185 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 600 \\ - 284 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 5315 \\ - 428 \\ \hline \end{array}$$

$$\begin{array}{r} 29. \quad 8642 \\ - 3865 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 7020 \\ - 4159 \\ \hline \end{array}$$

Round to the nearest 10, 100, and 1000.

$$31. \quad 6927$$

$$32. \quad 1082$$

$$33. \quad 579$$

$$34. \quad 306$$

$$35. \quad 8951$$

Solve.

36. At a fishing tournament the Canadian team caught three tuna fish with masses of 512 kg, 493 kg, and 476 kg. What was the total mass of the three fish?



## PROBLEM SOLVING

Use the facts in the pictures to solve the problems.

1.

VISITORS	57
HOME	76



By how much did they win?

2.

BILL	214
ANN	235



How many points did Ann and Bill make?

3.

VISITORS	23
HOME	19



How many points do they need to catch up?

- During the regular hockey season, Philip scored 56 goals and had 49 assists. What was Philip's point total for the season?
- Marcia scored 5136 points for tricks to win a water ski competition. Elizabeth, the second-place finisher, scored 4958 points in the same event. Marcia scored how many more points than Elizabeth?
- The total possible score for three games in ten pin bowling is 900. In the women's series, the record score is 818. How many pins were missed in this record series?
- The quarterback for the Roughriders ran 580 running and passing plays during one season. 296 of the plays were passes. How many of the plays were running plays?

Write a problem using the information given.

- 84 times at bat  
39 hits  
sport: softball

- winning score 276  
par for course 288  
sport: golf



# UNIT 4

## MEASUREMENT I





# How Big?

Choose the best answer.

1. A blueberry is ■ cm wide.

1      10      100
2. A tomato is ■ cm wide.

1      8      80
3. A car is ■ m long.

1      5      30
4. A jug of cider is ■ cm tall.

2      20      200
5. The pony's enclosure is ■ m long.

2      20      200
6. A chicken is ■ cm tall.


5      10      35
7. A two-story building is ■ m high.

8      40      80
8. The length of the race held on field day was ■ m.

1      5      100


Choose the best answer.

9.




2 cm  
2 m  
20 m

10.



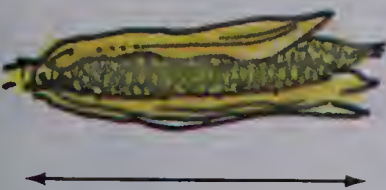
50¢  
\$5  
\$50

11.




4 cm  
14 cm  
4 m

12.




2 cm  
2 m  
20 cm

13.



10 m  
50 m  
500 m

14.

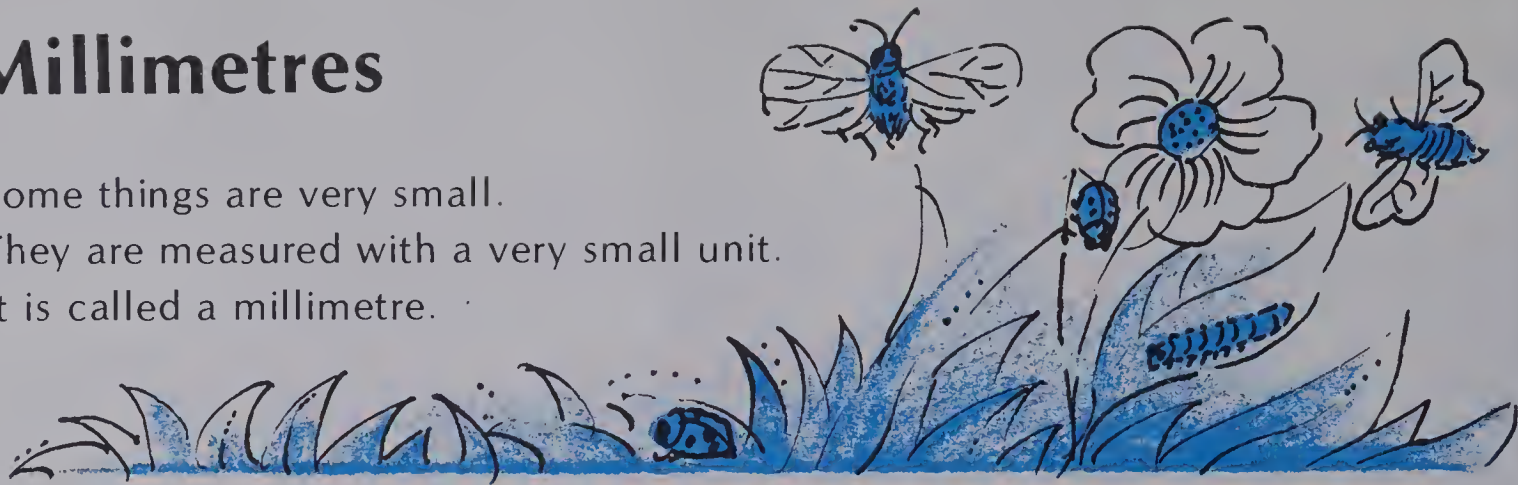


5¢  
60¢  
\$ 6

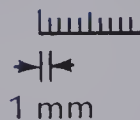
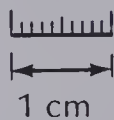


# Millimetres

Some things are very small.  
They are measured with a very small unit.  
It is called a millimetre.



A centimetre is divided into 10 units.  
Each unit is called a **millimetre** (mm).  
A millimetre is about as wide as the wire of a paper clip.

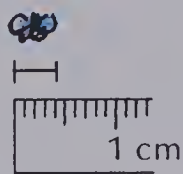


That's  
very small.

## EXERCISES

Use a ruler to measure each insect.

1. sandfly



2. mosquito



3. bumble bee



4. ant



Measure in millimetres.

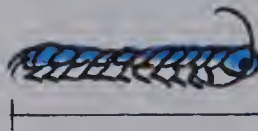
5.



6.



7.



8.



9.



10.



11.

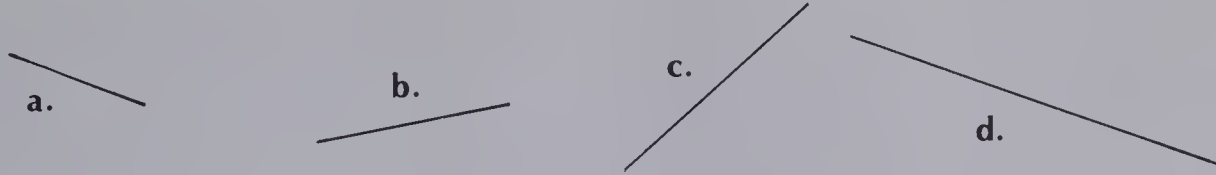


12.

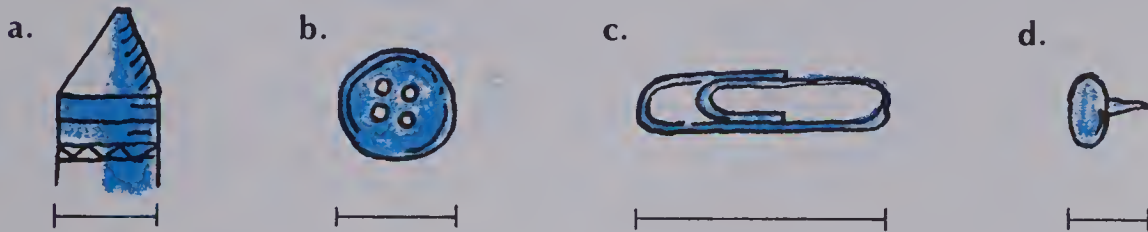


# PRACTICE

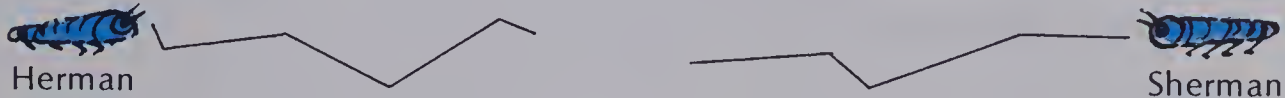
- Write the length of each line segment in millimetres.



- Which line segment above is the longest?  
Which is the shortest?
- Measure each object in millimetres.



- Here are the paths taken by two termites. Find the length of each path. Which path is shorter?  
What is the difference in the lengths?



- Draw a line segment 6 cm long. How long is it in millimetres?
- Draw a line segment 70 mm long. How long is it in centimetres?

Copy and complete the equations.

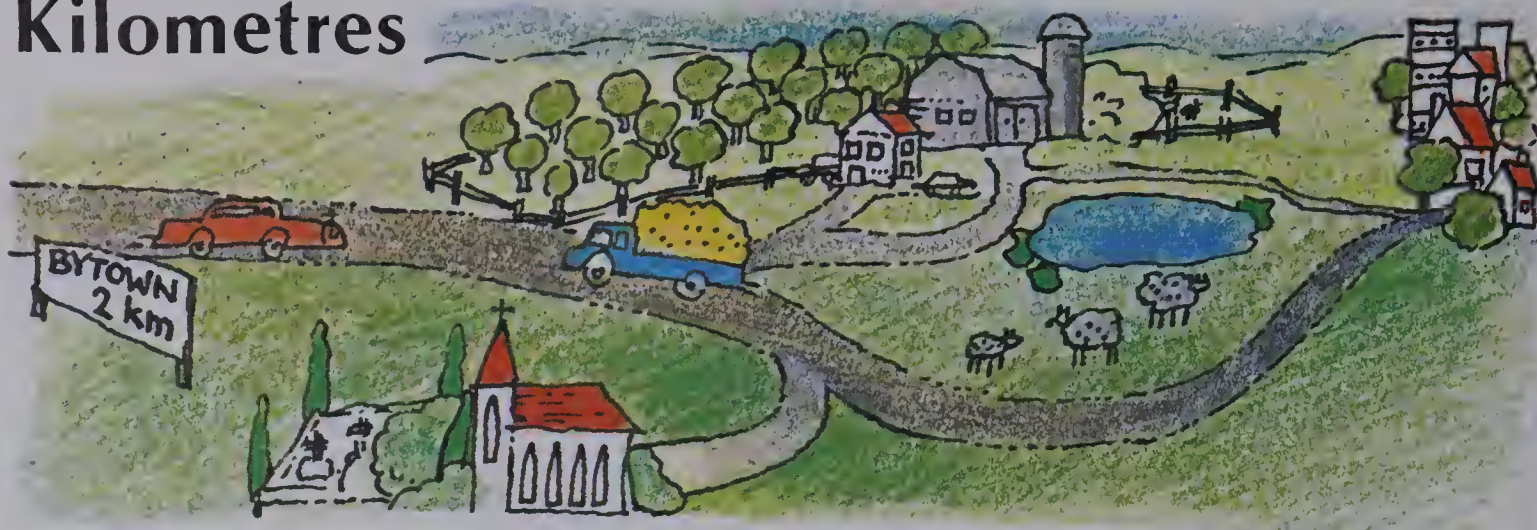
- |                  |                  |                   |
|------------------|------------------|-------------------|
| 7. 1 cm = ■ mm   | 8. 5 cm = ■ mm   | 9. 25 cm = ■ mm   |
| 10. 10 mm = ■ cm | 11. 40 mm = ■ cm | 12. 140 mm = ■ cm |

## Hammer This One!

A nail is needed to go through 15 mm of plywood,  
8 mm of plaster, and 2 cm of sheeting.  
How long must the nail be?

Draw a picture to help solve this problem.

# Kilometres



Some distances are very large.

They are measured with a unit much larger than a metre.

This unit is called a **kilometre (km)**.

$$1 \text{ km} = 1000 \text{ m}$$

You can hike 1 km in about ten minutes.

## EXERCISES

Discuss with your classmates. Then write an answer.

1. What two buildings in your area are about 1 km apart?
2. What place would be about 2 km from your school?
3. How far away is the next town or city?

What is your answer?

4. Sam walks to school in 30 min. About how far does he live from the school?
5. How far could you hike in one hour?

Use the odometer readings to find the distance travelled on each trip.

6.

Hamilton

6	8	4	2
---	---	---	---

Niagara Falls

6	9	1	9
---	---	---	---

7.

Regina

3	4	1	7
---	---	---	---

Saskatoon

3	6	7	1
---	---	---	---

8.

Edmonton

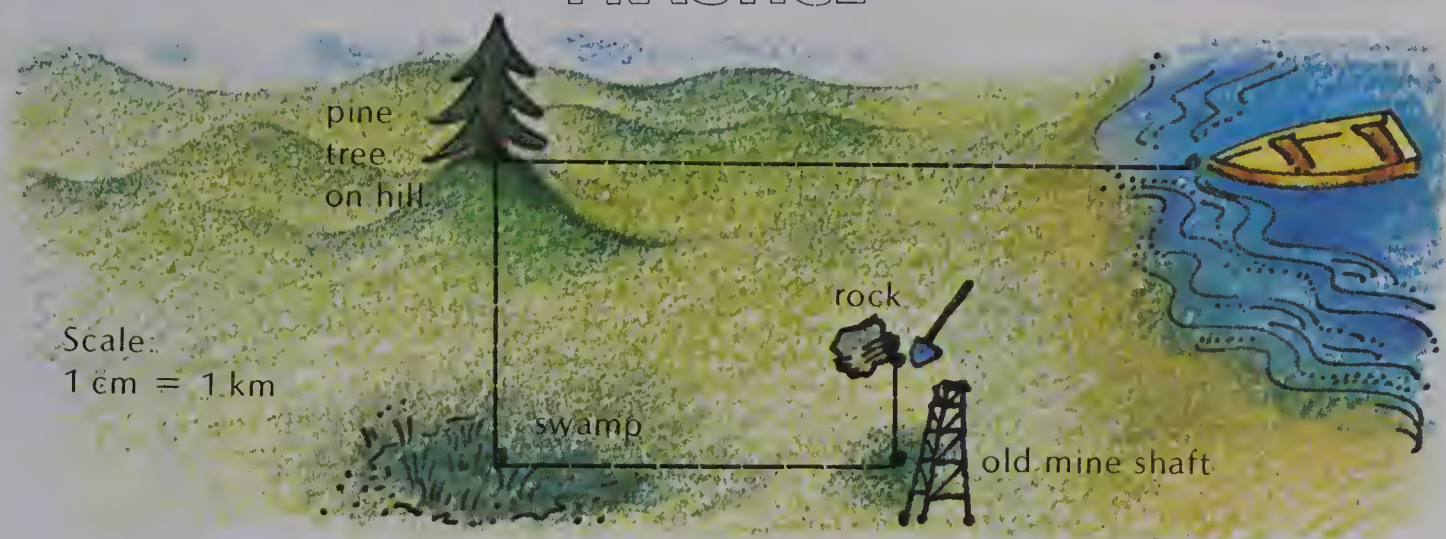
4	8	3	7
---	---	---	---

St. John

9	2	5	0
---	---	---	---



## PRACTICE



Billy and Cara used this map to find the buried treasure on Lonely Island.

How far is it

1. from the boat to the pine tree?
2. from the pine tree to the swamp?
3. from the swamp to the mine shaft?
4. from the mine shaft to the rock?
5. from the boat to the rock?

Round each distance to the nearest hundred kilometres.

6. Regina to Ottawa, 2777 km
7. Moncton to Quebec, 795 km
8. Montreal to Calgary, 3674 km
9. Winnipeg to Vancouver, 2398 km
10. Victoria to St. John's, 6892 km
11. Niagara Falls to Thunder Bay, 1541 km
12. Halifax to Sydney, 409 km

## Math dREAMs

If 10 sheets of paper are 1 mm thick, how many sheets would there be in a pile 5 cm high?

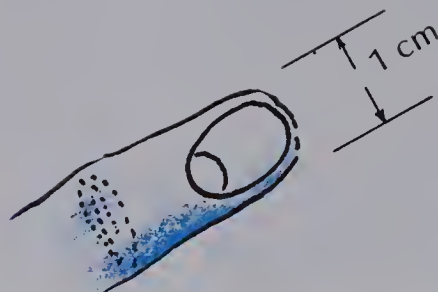


# Length

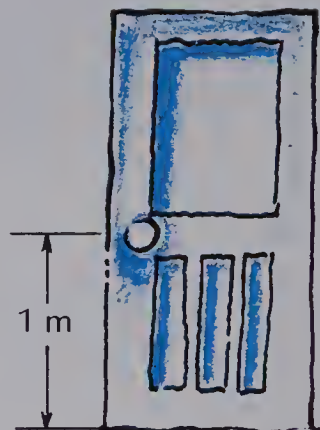
One millimetre is about the thickness of a dime.



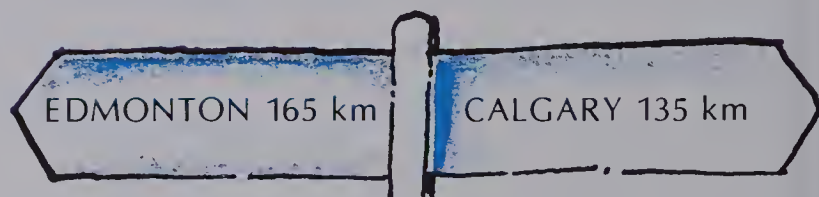
One **centimetre** is ten millimetres.  
 $1 \text{ cm} = 10 \text{ mm}$



One **metre** is a hundred centimetres.  
 $1 \text{ m} = 100 \text{ cm}$



One **kilometre** is a thousand metres.  
 $1 \text{ km} = 1000 \text{ m}$



## EXERCISES

What unit of length would you use to measure:

1. the thickness of a quarter?
2. the length of a shoe?
3. the width of a vegetable patch?
4. the height of a tree?
5. the distance from Halifax to St. John's?

Copy and complete the equations.

- |   |  |  |
|---|--|--|
| 6. $1 \text{ cm} = \blacksquare \text{ mm}$   | 7. $1 \text{ m} = \blacksquare \text{ cm}$   | 8. $1 \text{ km} = \blacksquare \text{ m}$   |
| 9. $2 \text{ cm} = \blacksquare \text{ mm}$   | 10. $5 \text{ m} = \blacksquare \text{ cm}$  | 11. $3 \text{ km} = \blacksquare \text{ m}$  |
| 12. $19 \text{ cm} = \blacksquare \text{ mm}$ | 13. $12 \text{ m} = \blacksquare \text{ cm}$ | 14. $15 \text{ km} = \blacksquare \text{ m}$ |

# PRACTICE


Write mm, cm, m, or km to complete each sentence.


1. The horse ran 1 ■ in about one minute.
2. The swimming pool is 3 ■ deep.
3. The tulip is 40 ■ high.
4. Montreal is about 500 ■ from Toronto.
5. The pin is 25 ■ long.
6. The distance around the world is about 40 000 ■.


Copy and complete the equations.

7.  $1 \blacksquare = 10 \text{ mm}$
8.  $1 \blacksquare = 100 \text{ cm}$
9.  $1 \blacksquare = 1000 \text{ m}$
10.  $4 \blacksquare = 40 \text{ mm}$
11.  $6 \blacksquare = 600 \text{ cm}$
12.  $9 \blacksquare = 9000 \text{ m}$

Choose the best measurement.

13.  4 cm  
4 m  
4 km

14.  6 mm  
6 cm  
6 m

15.  260 m  
260 km

Estimate. Check your answer.

16. your height
17. the length of your arm
18. the width of your thumb
19. the length of your neck
20. how far you can jump

	Estimate	Measure

## Metric Combinations

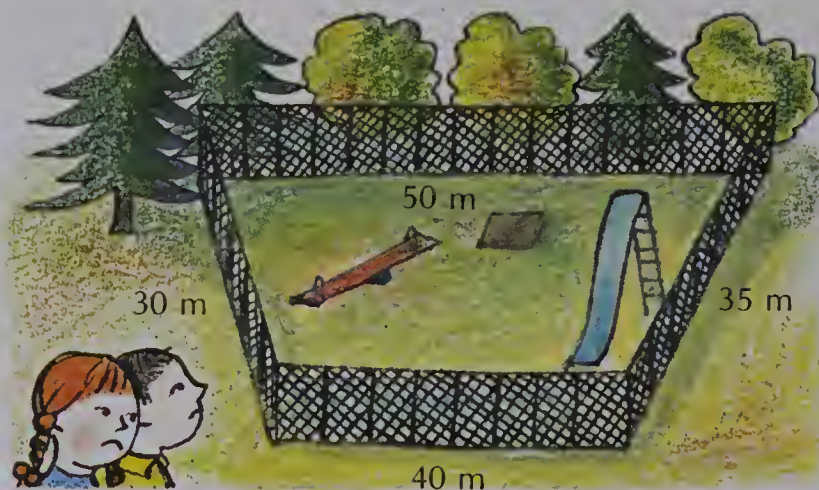
Copy and complete the equations.

1.  $2 \text{ cm} + 3 \text{ mm} = \blacksquare \text{ mm}$
2.  $21 \text{ cm} + 18 \text{ mm} = \blacksquare \text{ mm}$
3.  $6 \text{ m} + 32 \text{ cm} = \blacksquare \text{ cm}$
4.  $13 \text{ m} + 6 \text{ cm} = \blacksquare \text{ cm}$
5.  $5 \text{ km} + 306 \text{ m} = \blacksquare \text{ m}$
6.  $21 \text{ km} + 18 \text{ m} = \blacksquare \text{ m}$



# Perimeter

At the park today, Frank and Eva found that their favourite play area had been fenced off. Puzzled, they walked all the way around the enclosure. How far did they walk?



$$30 \text{ m} + 50 \text{ m} + 35 \text{ m} + 40 \text{ m}$$

$$\begin{array}{r} 30 \text{ m} \\ 50 \text{ m} \\ 35 \text{ m} \\ + 40 \text{ m} \\ \hline 155 \text{ m} \end{array}$$

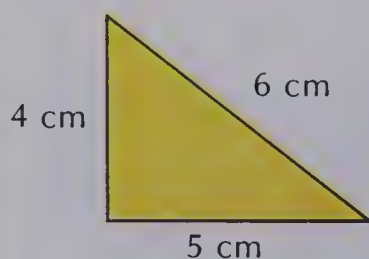
They walked 155 m.

The distance around a figure is called the **perimeter**.

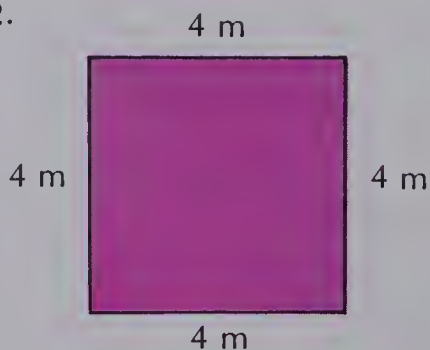
## EXERCISES

What is the perimeter of each figure?

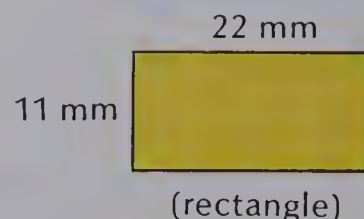
1.



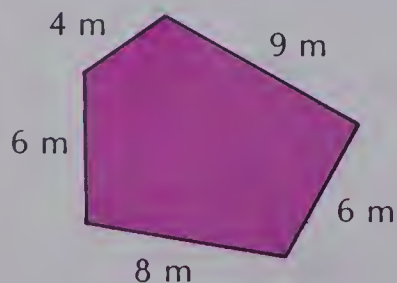
2.



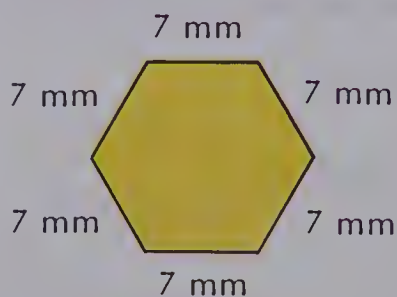
3.



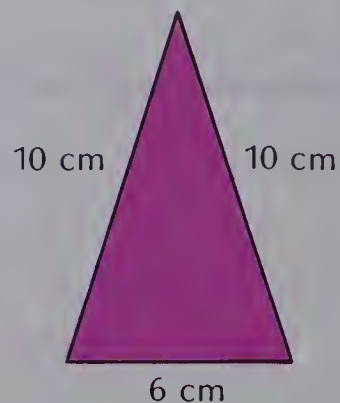
4.



5.

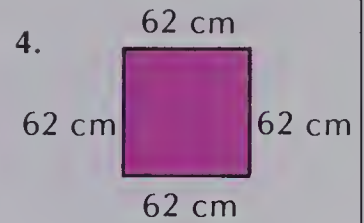
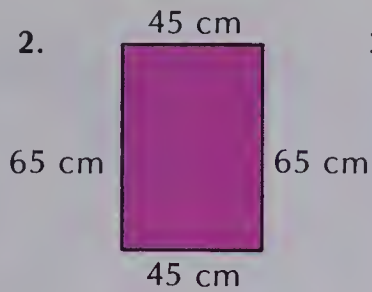
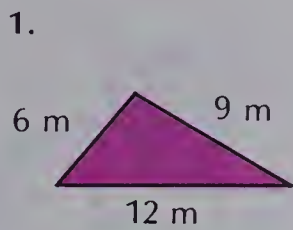


6.

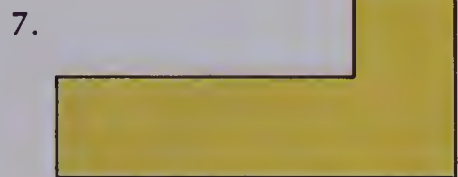
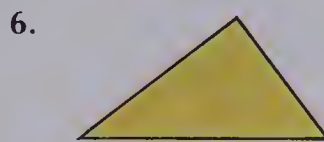
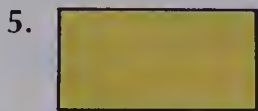


## PRACTICE

What is the perimeter of each figure?



Measure each side. What is the perimeter of the figure?



Solve.

8. Tape is to be placed around a window which is 3 m by 2 m. How many metres of tape are needed?

## REVIEW

M3

1. Name an object that is about 1 mm thick.
2. What unit of length is 10 mm long?

M4

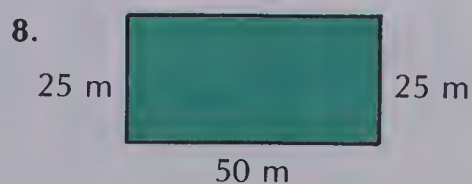
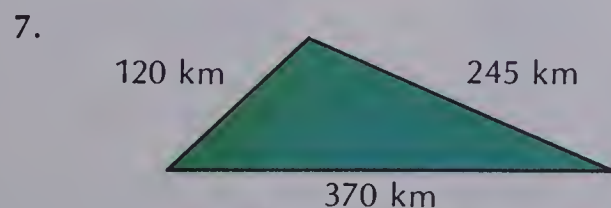
3. Name 2 places in your neighbourhood that are about 1 km apart.
4. How many metres are there in a kilometre?

M5

5. Estimate the length of your desk in centimetres.
6. Estimate the width of your classroom in metres.

What is the perimeter of each figure?

M6



# Mass

Li found an injured bird and nursed it back to health. He asked the vet to measure its mass each week.

The bird's mass was 85 g.

Very light things are measured in **grams**.

The mass of a raisin is about 1 g.

Heavier things are measured in **kilograms**.

The mass of five large apples is about 1 kg.

The mass of a dictionary is about 1 kg.



$$1 \text{ kg} = 1000 \text{ g}$$

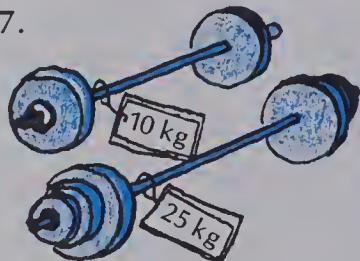
## EXERCISES

Write **g** or **kg** to name the better unit to measure each object.

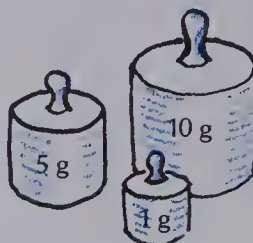
- |            |             |            |
|------------|-------------|------------|
| 1. a penny | 2. a dog    | 3. a straw |
| 4. a child | 5. a crayon | 6. a horse |

Write the total mass in kilograms or grams.

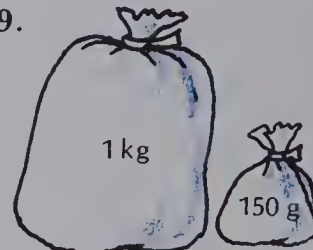
7.



8.



9.



Write the mass of each object.

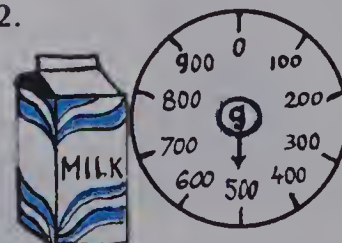
10.



11.



12.





## PRACTICE

Choose the best answer.

1.



1 g   10 g   1 kg

2.



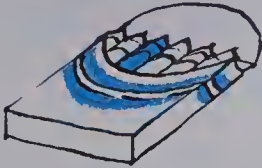
200 g   200 kg   2000 kg

3.



2 g   20 g   200 g

4.



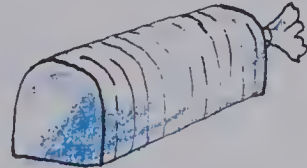
5 g   50 g   5 kg

5.



30 g   300 g   3 kg

6.



70 g   700 g   7 kg

Find the mass.

7.  $16 \text{ kg} + 32 \text{ kg}$

8.  $375 \text{ kg} + 468 \text{ kg}$

9.  $5083 \text{ kg} - 4739 \text{ kg}$

10.  $47 \text{ g} - 25 \text{ g}$

11.  $826 \text{ g} + 317 \text{ g}$

12.  $6713 \text{ g} - 3456 \text{ g}$

Write the mass in grams.

13.  $2 \text{ kg} + 300 \text{ g}$

14.  $5 \text{ kg} + 20 \text{ g}$

15.  $1 \text{ kg} + 1 \text{ g}$

16.  $3 \text{ kg} + 13 \text{ g}$

17.  $1 \text{ kg} + 987 \text{ g}$

18.  $10 \text{ kg} + 800 \text{ g}$

Solve.

19. At a fruit and vegetable stand Frances bought 5 kg of apples, 10 kg of potatoes, and 3 kg of tomatoes. What was the total mass of her purchases?

20. Steve made a bowl of mixed nuts for a Christmas treat. He used 340 g of peanuts, 170 g of cashews, and 85 g of macadamia nuts. How many grams of nuts did he use?

## Overloaded?

Andy's father loaded fifteen 20 kg bags of fertilizer in his station wagon. His own mass is 100 kg. Did he exceed the 600 kg load limit for the station wagon?

# Money

George and Judy had an argument in the store.

George said \$0.78 was more than 78¢. Judy said 78¢ was more than \$0.78. Who was right?

They were both wrong.



$$78¢ = \$0.78$$

dollars      cents  
    ↓      ↓  
    \$0 . 7 8

In the number \$0.78, there are 0 dollars and 78 cents.

## EXERCISES

Write each amount as you would say it.

- |           |           |           |           |            |
|-----------|-----------|-----------|-----------|------------|
| 1. 34¢    | 2. 56¢    | 3. \$2.15 | 4. \$1.29 | 5. \$3.30  |
| 6. \$3.03 | 7. \$0.68 | 8. \$0.40 | 9. \$0.04 | 10. \$0.09 |

Write each amount as a numeral with a dollar sign.

- |                            |                             |
|----------------------------|-----------------------------|
| 11. 3 dollars and 12 cents | 12. 15 dollars and 40 cents |
| 13. 24 dollars and 4 cents | 14. 26 cents                |
| 15. ninety cents           | 16. nine cents              |

Write each amount as a numeral with a cent sign.

- |                     |                       |                    |
|---------------------|-----------------------|--------------------|
| 17. fifty-two cents | 18. 1 quarter 1 penny | 19. three quarters |
| 20. six cents       | 21. sixty cents       | 22. \$2.00         |

Write each amount as a numeral with a dollar sign.

- |         |         |          |        |         |
|---------|---------|----------|--------|---------|
| 23. 37¢ | 24. 75¢ | 25. 123¢ | 26. 4¢ | 27. 60¢ |
|---------|---------|----------|--------|---------|

Write each amount as a numeral with a cent sign.

- |            |            |            |            |            |
|------------|------------|------------|------------|------------|
| 28. \$0.14 | 29. \$0.40 | 30. \$0.04 | 31. \$1.40 | 32. \$0.06 |
|------------|------------|------------|------------|------------|

# PRACTICE

Write each amount as a numeral with a dollar sign.

1. 23¢      2. 58¢      3. 86¢      4. 8¢      5. 60¢

Write each amount as a numeral with a cents sign.

6. \$0.39      7. \$0.77      8. \$0.97      9. \$0.07      10. \$0.70

Write each sum in dollars.

11. \$4 + 7¢      12. \$7 + 32¢      13. \$39 + 24¢      14. \$87 + 72¢

How much money? Write the amount in cents.



How much money? Write the amount in dollars.



Round to the nearest dollar.

19. \$0.72      20. \$6.07      21. \$18.50      22. \$93.40

Solve.

23. Brenda has a \$5 bill, a \$2 bill, a \$1 bill, 2 quarters, 3 dimes, 4 nickels, and 7 pennies in her wallet.  
How much money does she have?

## Change Challenge

Jim has 26¢ in change.  
What coins could he have?  
There are 13 possibilities.  
How many can you find?





# Adding and Subtracting with Money

Ursula's mother bought the groceries for a long weekend at the cottage. She spent \$54.35 before they left home and \$28.46 after they got to the cottage. How much did she spend altogether?

$$\begin{array}{r} \$54.35 \\ + 28.46 \\ \hline \end{array}$$

Add.

Write the dollar sign and decimal point in your answer.

She spent \$82.81 altogether.

Ursula's dad filled up his gas tank for \$17.40 at a city discount centre. He paid \$19.25 for the same amount of gas near the cottage. How much did he save by buying gas at the discount centre?

$$\begin{array}{r} \$19.25 \\ - 17.40 \\ \hline \end{array}$$

Subtract.

Write the dollar sign and decimal point in your answer.

The amount he saved was \$1.85.

## EXERCISES

Add.

$$\begin{array}{r} 1. \quad \$3 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad \$3.00 \\ + 8.00 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad \$0.52 \\ + 0.34 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad \$3.52 \\ + 8.34 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad \$54.78 \\ + 23.45 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 6. \quad \$9 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad \$9.00 \\ - 6.00 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad \$0.68 \\ - 0.35 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad \$9.68 \\ - 6.35 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad \$74.23 \\ - 31.85 \\ \hline \end{array}$$

Add or subtract.

$$\begin{array}{r} 11. \quad \$4.52 \\ + 3.39 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad \$9.62 \\ - 4.38 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad \$2.73 \\ + 5.81 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad \$8.47 \\ - 2.65 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad \$27.31 \\ + 51.82 \\ \hline \end{array}$$

## PRACTICE

Add.

$$\begin{array}{r} 1. \quad \$3 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad \$70 \\ + 13 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad \$38 \\ + 38 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad \$42.00 \\ + 37.00 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad \$5.02 \\ + 5.57 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad \$0.43 \\ + 0.06 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad \$0.35 \\ + 3.21 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad \$4.54 \\ + 3.27 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad \$1.30 \\ + 7.89 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad \$3.62 \\ + 9.19 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 11. \quad \$7 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad \$14 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad \$97 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad \$83 \\ - 29 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad \$64.00 \\ - 21.00 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad \$0.77 \\ - 0.34 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad \$0.91 \\ - 0.63 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad \$8.40 \\ - 2.24 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad \$91.49 \\ - 20.65 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad \$71.44 \\ - 32.27 \\ \hline \end{array}$$

Add or subtract.

$$\begin{array}{r} 21. \quad \$7.72 \\ + 2.91 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad \$14.50 \\ + 23.62 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad \$34.27 \\ - 16.90 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad \$57.72 \\ + 19.60 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad \$78.24 \\ - 31.81 \\ \hline \end{array}$$

Solve.

26. John's family ate in restaurants while they were on vacation. One day they spent \$32.53 for lunch and \$68.27 for dinner. How much did they spend altogether?

27. During the off-season a cottage can be rented for \$48.90 a day. In high season the rent is \$67.80 a day. How much is saved per day in the off-season?

## Gertie's Guessing Game

Gertrude has 13 bills and coins.

She has \$20.15 altogether.

How many of each bill and coin does Gertie have?

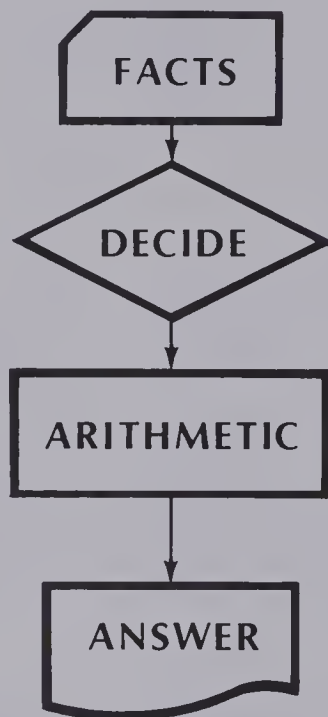
# Problem Solving



Lisa and Jonah are preparing for a long race.

Lisa runs 1125 m and Jonah runs 2250 m.

How much farther does Jonah run?



Lisa runs 1125 m.

Jonah runs 2250 m.

To find **how much farther**,  
you must **subtract**.

$$\begin{array}{r} 410 \\ 2250 \\ - 1125 \\ \hline 1125 \end{array}$$

Jonah runs 1125 m farther  
than Lisa.

## EXERCISES

Use the four steps to solve these problems.

1. A forest reserve has 4 sides.  
Every side is 15 km long.  
What is the perimeter of the reserve?
2. Pam and Harry had lunch at a snack bar.  
Two hot dogs were \$1.60.  
Chips were \$0.90 and drinks were \$1.30.  
How much did lunch cost?
3. Marta kept a record of the growth of a bean plant.  
On Tuesday, it was 63 mm tall.  
On Friday, it was 78 mm tall.  
How much did it grow between Tuesday and Friday?



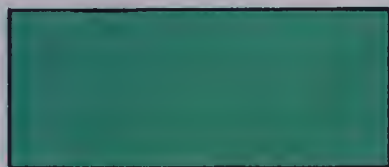
## PRACTICE

Use the four steps to solve the problems.

1. It is 16 km from the Brown's cottage to the nearest town. How far do the Brown's drive when they make a round trip?
2. John spent the summer at his grandparent's farm. When he arrived there, his mass was 34 kg. When he left, it was 37 kg. How many kilograms did he gain?
3. Sophie is sewing a cross-stitch pattern on a tea towel. On Monday, the rows she finished measured 48 mm. On Tuesday she sewed 12 mm more. How many millimetres altogether has she done?
4. The Benson family had lunch at a restaurant. The charge for the food was \$12.10. They gave the waiter a \$1.50 tip. What was the total cost of the lunch?

Use the facts in each picture to answer the question.

5.

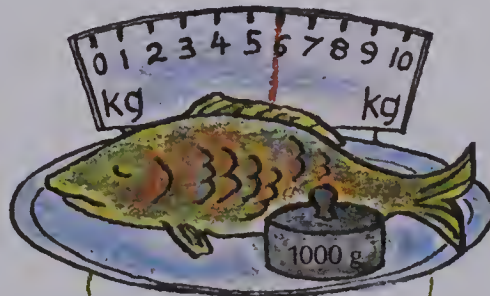


458 m

237 m

What is the perimeter?

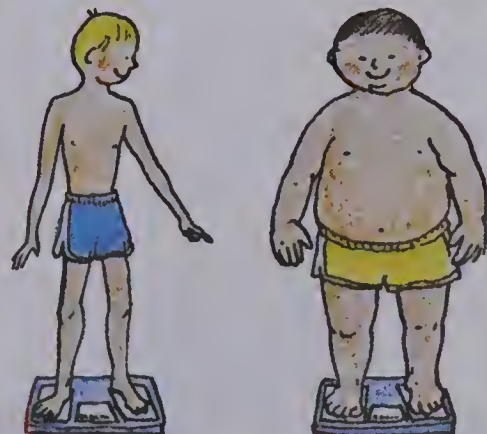
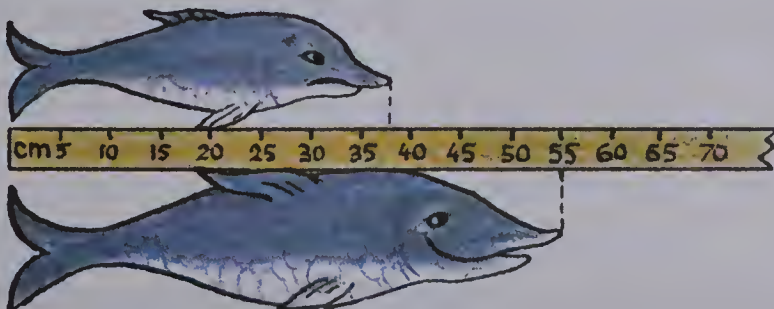
6.



What is the fish's mass?

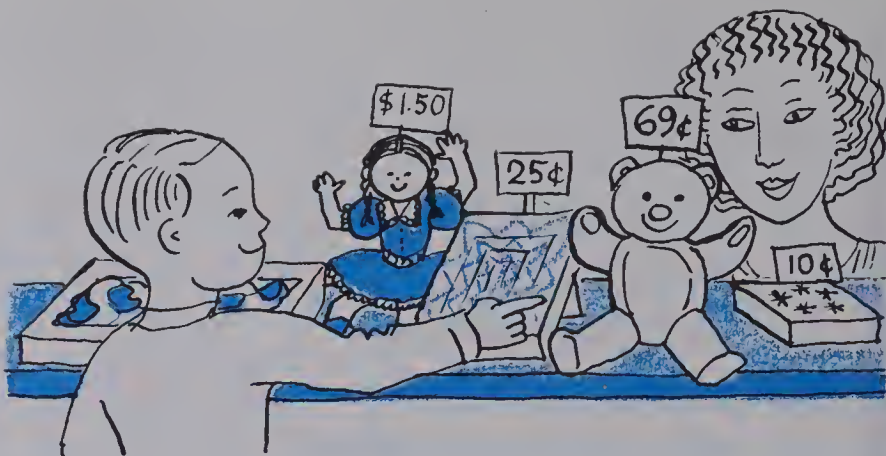
## Imagine

Make up a story problem for each picture.



# Making Change

Peter wanted to buy the teddy bear. He had \$2.00. How much change was he supposed to receive?



Justina gave the change without using a paper and pencil to subtract.

She started with 69¢, the cost of the teddy bear.

She gave Peter a penny, to make 70¢.

She added a nickel, to make 75¢,

then a quarter, to make \$1.00,

and then a \$1 bill, to make \$2.00.

Peter received a penny, a nickel, a quarter, and a \$1 bill.

His change was \$1.31.

## EXERCISES

Count:

- |                                  |                                   |
|----------------------------------|-----------------------------------|
| 1. by cents from 76¢ to 80¢      | 2. by cents from 31¢ to 35¢       |
| 3. by nickels from 60¢ to 75¢    | 4. by nickels from 15¢ to 25¢     |
| 5. by dimes from 80¢ to \$1      | 6. by dimes from 10¢ to 50¢       |
| 7. by quarters from 25¢ to \$1   | 8. by quarters from 50¢ to \$1    |
| 9. by \$1 bills from \$3 to \$5  | 10. by \$1 bills from \$7 to \$10 |
| 11. by \$2 bills from \$1 to \$5 | 12. by \$5 bills from \$5 to \$10 |

Count the change.

- |                            |                             |
|----------------------------|-----------------------------|
| 13. for 19¢ from 25¢       | 14. for 32¢ from 50¢        |
| 15. for 64¢ from \$1.00    | 16. for 77¢ from \$1.00     |
| 17. for \$1.35 from \$2.00 | 18. for \$1.45 from \$2.00  |
| 19. for \$3.98 from \$5.00 | 20. for \$7.75 from \$10.00 |
| 21. for \$2.37 from \$5.00 | 22. for \$8.31 from \$10.00 |

# PRACTICE

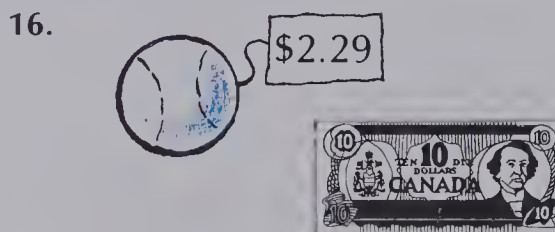
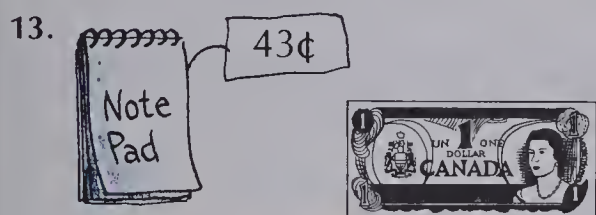
Complete each pattern.

1. 4, 5, 6, ■, ■, ■, 10
2. 35, 40, 45, ■, ■, ■, 65
3. 30, 40, 50, ■, ■, ■, ■, 100
4. 25, 50, ■, 100
5. 80, 85, 90, ■, 100
6. 70, 71, ■, ■, ■, 75

Express each amount in another way.

7.  $25¢ = 17¢ + \blacksquare \text{ pennies} + \blacksquare \text{ nickel}$
8.  $50¢ = 26¢ + \blacksquare \text{ pennies} + \blacksquare \text{ dimes}$
9.  $\$1.00 = 65¢ + \blacksquare \text{ nickel} + \blacksquare \text{ dimes}$
10.  $\$1.00 = 71¢ + 4 \blacksquare + 1 \blacksquare$
11.  $\$1.00 = 40¢ + 1 \blacksquare + 2 \blacksquare$
12.  $\$2.00 = \$1.39 + 1 \blacksquare + 1 \blacksquare + 2 \blacksquare$

Draw a picture to show the change.

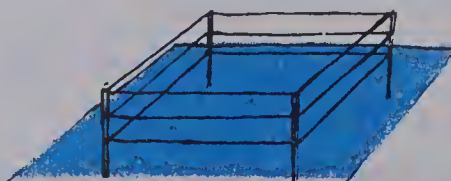


Solve.

17. Helen's father bought fish and chips for dinner for \$7.36. He gave the clerk \$10.00. Count out the change he should get back.
18. Mario's mother paid \$8.65 for gas for the car. She gave the attendant a \$10 bill. Count out the change she should get back.

## Rope It Off

A boxing ring is about 6 m square.  
If there are 3 ropes around the ring,  
what is the total length of this rope?





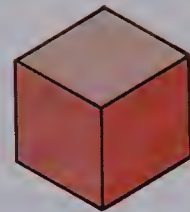
# Capacity

Sandy is making a “water xylophone”. She has 5 glasses the same size. She wants to measure the amount of water to put in each glass.



The litre measure is too big.

A **millilitre** is very small. It is the amount of liquid you could put in a cube that measures 1 cm on each side.



The symbol for millilitre is **mL**.

A thimble holds about 1 mL.

A drinking glass holds about 250 mL.

$$1000 \text{ mL} = 1 \text{ L}$$

Sandy tried filling the glasses with 50 mL, 100 mL, 150 mL, 200 mL, and 250 mL.

## EXERCISES

Choose the more likely measurement.

- |  |                                   |
|--|-----------------------------------|
| 1. a bottle cap: 1 mL or 1 L               | 2. a pop can: 25 mL or 250 mL     |
| 3. a soup spoon: 2 mL or 2 L               | 4. a teapot: 500 mL or 5 L        |
| 5. a plastic cup: 15 mL or 150 mL          | 6. a milk carton: 1 L or 10 mL    |
| 7. a small perfume bottle:<br>50 mL or 5 L | 8. a thermos bottle: 10 mL or 1 L |

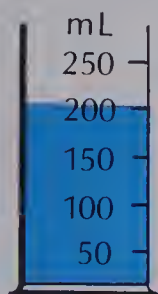
Estimate the capacity.

- |                        |                       |
|------------------------|-----------------------|
| 9. a small pill bottle | 10. a drinking glass  |
| 11. a large jam jar    | 12. a kettle          |
| 13. a fish bowl        | 14. a pail            |
| 15. a waste basket     | 16. an aquarium       |
| 17. a baby food jar    | 18. a large juice can |
| 19. a can of tomatoes  | 20. a big paint can   |
| 21. a spice container  | 22. an egg cup        |

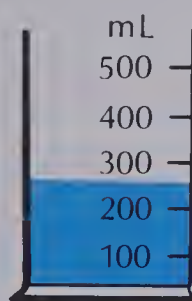
# PRACTICE

Read the amount of liquid shown in the container.

1.



2.



Copy and complete the equations.

3.  $1 \text{ L} = \blacksquare \text{ mL}$

4.  $3 \text{ L} = \blacksquare \text{ mL}$

5.  $12 \text{ L} = \blacksquare \text{ mL}$

Solve.

6. A punch recipe calls for 1 L orange juice, 750 mL apple juice, and 824 mL ginger ale. What is the total amount of liquid called for in the recipe?

# REVIEW

M7

Name an everyday object that has a mass of about:

1. 1 g

2. 100 g

3. 300 g

M8

Write each amount using a dollar sign.

4. 32¢

5. 8¢

6. 149¢

Write each amount using a cent sign.

7. \$0.06

8. \$0.70

9. \$1.50

M9

Add or subtract.

10.  $\begin{array}{r} \$6.05 \\ + 8.75 \\ \hline \end{array}$

11.  $\begin{array}{r} \$5.72 \\ + 1.84 \\ \hline \end{array}$

12.  $\begin{array}{r} \$8.94 \\ - 5.27 \\ \hline \end{array}$

13.  $\begin{array}{r} \$35.12 \\ - 11.86 \\ \hline \end{array}$

M10

Count the change.

14. for 37¢ from \$1.00

15. for \$2.76 from \$5.00

M11

Name a container that has a capacity of about:

16. 250 mL

17. 25 mL

18. 500 mL

# TEST

# UNIT 4

Use a ruler to measure the line segments.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

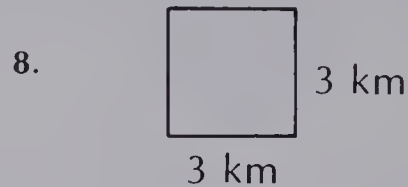
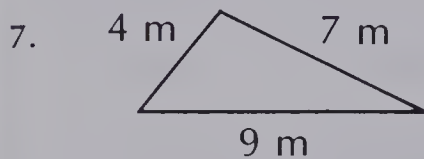
What is the missing number?

4. ■ m = 1 km

5. 10 mm = ■ cm

6. 1000 mL = ■ L

What is the perimeter of each figure?



Estimate the mass of each.

9. a dime  
2 g **or** 2 kg

10. a fourth grader  
3 kg **or** 30 kg

11. your math book  
50 g **or** 500 g

Write each amount as a numeral with a dollar sign.

12. 7¢

13. 35¢

14. 57¢

Write each amount as a numeral with a cent sign.

15. \$0.32

16. \$0.04

17. \$0.80

Add or subtract.

18. 
$$\begin{array}{r} \$5.31 \\ + 0.46 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} \$7.46 \\ + 6.89 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} \$3.74 \\ - 1.27 \\ \hline \end{array}$$

21. 
$$\begin{array}{r} \$8.37 \\ - 5.81 \\ \hline \end{array}$$

What is the change:

22. for 49¢ from \$1.00

23. for \$1.70 from \$2.00

Estimate the capacity of each.

24. a bottle cap: 5 mL **or** 50 mL

25. an ordinary glass: 50 mL **or** 200 mL

26. a pail: 5 L **or** 50 L



## ADD / SUBTRACT

Add.

$$\begin{array}{r} 1. \quad 3 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 24 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 53 \\ + 44 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 430 \\ + 19 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 503 \\ + 184 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 9 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 47 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 25 \\ + 36 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 854 \\ + 29 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 626 \\ + 137 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 70 \\ + 89 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 64 \\ + 58 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 714 \\ + 97 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 507 \\ + 197 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 618 \\ + 294 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 1604 \\ + 163 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 8563 \\ + 218 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 5119 \\ + 3467 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 3669 \\ + 4054 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 2758 \\ + 2758 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 9 \\ 5 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 12 \\ 36 \\ + 43 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 106 \\ 427 \\ + 319 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 82 \\ 64 \\ + 33 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad 326 \\ 161 \\ + 472 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 26. \quad 9 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 34 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 75 \\ - 35 \\ \hline \end{array}$$

$$\begin{array}{r} 29. \quad 46 \\ - 33 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 891 \\ - 50 \\ \hline \end{array}$$

$$\begin{array}{r} 31. \quad 789 \\ - 452 \\ \hline \end{array}$$

$$\begin{array}{r} 32. \quad 645 \\ - 241 \\ \hline \end{array}$$

$$\begin{array}{r} 33. \quad 17 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 34. \quad 72 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 35. \quad 55 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 36. \quad 82 \\ - 53 \\ \hline \end{array}$$

$$\begin{array}{r} 37. \quad 142 \\ - 37 \\ \hline \end{array}$$

$$\begin{array}{r} 38. \quad 910 \\ - 409 \\ \hline \end{array}$$

$$\begin{array}{r} 39. \quad 567 \\ - 88 \\ \hline \end{array}$$

$$\begin{array}{r} 40. \quad 625 \\ - 147 \\ \hline \end{array}$$

$$\begin{array}{r} 41. \quad 8423 \\ - 257 \\ \hline \end{array}$$

$$\begin{array}{r} 42. \quad 3054 \\ - 698 \\ \hline \end{array}$$

$$\begin{array}{r} 43. \quad 5000 \\ - 821 \\ \hline \end{array}$$

$$\begin{array}{r} 44. \quad 5632 \\ - 3458 \\ \hline \end{array}$$

$$\begin{array}{r} 45. \quad 8100 \\ - 5413 \\ \hline \end{array}$$

# UNIT 5

## MULTIPLICATION





# Toy Factory

Copy and complete the total for each toy.

## Inventory

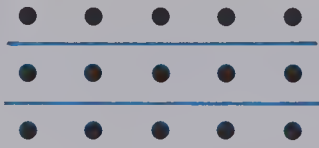
Item	Total
1. teddy bears: 4 boxes of 2	$2+2+2+2 = 8$
2. rubber snakes: 2 boxes of 6	$6+6 = 12$
3. skipping ropes: 3 bundles of 10	
4. fire trucks: 5 boxes of 3	
5. bingo games: 4 boxes of 4	
6. walking dolls: 3 boxes of 2	
7. play dough: 1 box of 6	
8. model tanks: 3 boxes of 4	
9. electric trains: 2 boxes of 2	
10. toy robots: 9 boxes of 2	
11. toy drums: 4 boxes of 3	
12. stuffed giraffe: 0 bags of 1	
13. toy stoves: 5 boxes of 2	
14. hula hoops: 7 bundles of 3	
15. rocking horses: 6 boxes of 1	
16. checkers: 3 boxes of 6	

GRAND TOTAL 194



# Multiplication

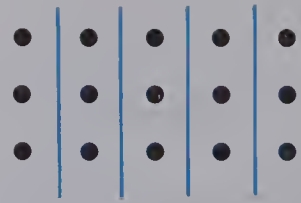
These **arrays** both contain 15 dots.



$$5 + 5 + 5 = 15$$

$$3 \text{ fives} = 15$$

$$3 \times 5 = 15$$



$$3 + 3 + 3 + 3 + 3 = 15$$

$$5 \text{ threes} = 15$$

$$5 \times 3 = 15$$

$3 \times 5$  is read "three times five".

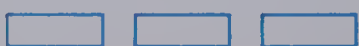
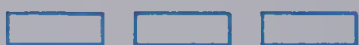
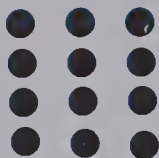
3 and 5 are **factors**.

15 is the **product**.

$$\begin{array}{ccccccc}
 & & 3 & \times & 5 & = & 15 \\
 & \nearrow & & \nwarrow & & & \nwarrow \\
 \text{factor} & & & & \text{factor} & & \text{product}
 \end{array}$$

## EXERCISES

Add or multiply.



1.  $4 + 4$

3.  $2 + 2 + 2 + 2$

5.  $3 + 3 + 3 + 3$

7.  $4 + 4 + 4$

9.  $2 + 2$

11.  $3 + 3$

13.  $2 + 2 + 2$

2.  $2 \times 4$

4.  $4 \times 2$

6.  $4 \times 3$

8.  $3 \times 4$

10.  $2 \times 2$

12.  $2 \times 3$

14.  $3 \times 2$

Write the related multiplication fact.

15.  $3 + 3 = 6$

16.  $4 + 4 + 4 = 12$

17.  $5 + 5 = 10$

18.  $3 + 3 + 3 = 9$

# PRACTICE

Add or multiply.



1.  $2 + 2 + 2$

2.  $3 \times 2$

3.  $3 + 3$

4.  $2 \times 3$



5.  $5 + 5$

6.  $2 \times 5$

7.  $2 + 2 + 2 + 2 + 2$

8.  $5 \times 2$



9.  $4 + 4 + 4$

10.  $3 \times 4$

11.  $3 + 3 + 3 + 3$

12.  $4 \times 3$

Draw an array.

13.  $6 \times 2$

14.  $5 \times 3$

15.  $4 \times 1$

Write the related multiplication fact.

16.  $9 + 9 + 9 = 27$

17.  $7 + 7 + 7 + 7 = 28$

18.  $5 + 5 + 5 + 5 + 5 = 25$

Write the related addition equation.

19.  $4 \times 8 = 32$

20.  $2 \times 7 = 14$

21.  $3 \times 6 = 18$

Solve.

22. A box of crayons has 8 crayons in it. Art Stores packs 6 boxes in a carton. Draw an array of dots to show this.

23. Each Robin Hood set has 4 arrows. Toycraft has arrows for 5 sets. Write a multiplication sentence about the number of arrows.

## A Timely Challenge

See how many addition and multiplication equations you can write in 3 minutes.



# 2 and 3 as Factors

How many skates are there in 5 pairs?

$$2 + 2 + 2 + 2 + 2 = 10$$

$$5 \text{ twos} = 10$$

$$5 \times 2 = 10$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline 10 \end{array}$$



There are 10 skates in 5 pairs.

Tennis balls come in packages of 3.

How many balls are there in 4 packages?

$$3 + 3 + 3 + 3 = 12$$

$$4 \text{ threes} = 12$$

$$4 \times 3 = 12$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline 12 \end{array}$$



There are 12 tennis balls in 4 packages.

## EXERCISES

Add or multiply.

1.  $2 + 2$

2.  $2 \times 2$

3.  $2 + 2 + 2$

4.  $3 \times 2$

5.  $2 + 2 + 2 + 2$

6.  $4 \times 2$

7.  $3 + 3$

8.  $2 \times 3$

9.  $3 + 3 + 3$

10.  $3 \times 3$

11.  $3 + 3 + 3 + 3$

12.  $4 \times 3$

Multiply.

13.  $\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$

14.  $\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$

15.  $\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$

16.  $\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$

17.  $\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$

18.  $\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$

19.  $\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$

20.  $\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$

21.  $\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$

22.  $\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$



# PRACTICE

Multiply.

1.  $\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$

2.  $\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$

3.  $\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$

4.  $\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$

5.  $\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$

6.  $\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$

7.  $\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$

9.  $\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$

10.  $\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$

11.  $\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$

12.  $\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$

13.  $\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$

14.  $\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$

15.  $\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$

16. Count by twos to twenty.

17. Count by threes to thirty.

18. Copy and complete the table.

	1	2	3	4	5	6	7	8	9
$\times 2$	2	4							
$\times 3$	3	6							

Solve.

19. Tricky Toys packs 6 rubber snakes in a box. How many snakes are there in 3 boxes?

20. Tricky Toys packs 6 rubber snakes and 2 rubber ducks in each box.

How many **snakes** are there in 3 boxes?

## Lots of Dots

Toycraft packs dominoes in boxes that have 2 layers.

Each layer has 2 rows of 7 dominoes.

How many dominoes are in a box?

In 3 boxes?



# 4 and 5 as Factors

The Fluffy Toy company packs teddy bears in boxes of 6.

How many teddy bears will there be in 4 boxes?

$$6 + 6 + 6 + 6 = 24$$

$$4 \times 6 = 24$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline 24 \end{array}$$



In 4 boxes there will be 24 teddy bears.

Cuddly cats are smaller than teddy bears.

They are packed in boxes of 8.

How many cats will there be in 5 boxes?

$$8 + 8 + 8 + 8 + 8 = 40$$

$$5 \times 8 = 40$$

$$\begin{array}{r} 8 \\ \times 5 \\ \hline 40 \end{array}$$



In 5 boxes there will be 40 cats.

## EXERCISES

Add or multiply.

1.  $4 + 4$

2.  $2 \times 4$

3.  $4 + 4 + 4$

4.  $3 \times 4$

5.  $4 + 4 + 4 + 4$

6.  $4 \times 4$

7.  $5 + 5$

8.  $2 \times 5$

9.  $5 + 5 + 5$

10.  $3 \times 5$

11.  $5 + 5 + 5 + 5 + 5$

12.  $4 \times 5$

Multiply.

13.  $\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$

14.  $\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$

15.  $\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$

16.  $\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$

17.  $\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$

18.  $\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$

19.  $\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$

20.  $\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$

21.  $\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$

22.  $\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$

# PRACTICE

Multiply.

$$\begin{array}{r} 1. \quad 4 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 5 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 8 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 7 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 9 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 5 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 4 \\ \times 6 \\ \hline \end{array}$$

16. 4 puzzles in a bag  
8 bags  
How many puzzles in all?

17. 5 players on a team  
2 teams  
How many players in all?

18. Copy and complete this chart.

	1	2	3	4	5	6	7	8	9
$\times 4$	4	8							
$\times 5$	5	10							

Solve.

19. The Fluffy Toy Company sold 6 of their \$5 stuffed toys to a toy store. How much should they charge the toy store?
20. There are 8 paper party hats in every bag of hats. How many hats are there in 4 bags?

## Bear With Us

Fluffy Toys makes 3 different sizes of teddy bears.  
Each size is available in 2 colours.  
How many different teddy bears does the company make?



# 1 and 0 as Factors

In December, classes come to visit the Toycraft factory.  
Only 1 class may come each day.

In 5 days, how many classes may visit the factory?

$$1 + 1 + 1 + 1 + 1 = 5$$

$$5 \times 1 = 5$$

$$\begin{array}{r} 1 \\ \times 5 \\ \hline 5 \end{array}$$

In 5 days, 5 classes may visit the factory.

Rob got a baseball bat for his birthday.  
He was up at bat 4 times, but he struck out  
each time. How many hits did he have?

$$0 + 0 + 0 + 0 = 0$$

$$4 \times 0 = 0$$

$$\begin{array}{r} 0 \\ \times 4 \\ \hline 0 \end{array}$$

In 4 times at bat, Rob had 0 hits.



## EXERCISES

Add or multiply.

1.  $1 + 1$

2.  $2 \times 1$

3.  $1 + 1 + 1$

4.  $3 \times 1$

5.  $1 + 1 + 1 + 1$

6.  $4 \times 1$

7.  $0 + 0$

8.  $2 \times 0$

9.  $0 + 0 + 0$

10.  $3 \times 0$

11.  $0 + 0 + 0 + 0$

12.  $4 \times 0$

Multiply.

13.  $\begin{array}{r} 1 \\ \times 5 \\ \hline \end{array}$

14.  $\begin{array}{r} 1 \\ \times 6 \\ \hline \end{array}$

15.  $\begin{array}{r} 1 \\ \times 7 \\ \hline \end{array}$

16.  $\begin{array}{r} 1 \\ \times 8 \\ \hline \end{array}$

17.  $\begin{array}{r} 1 \\ \times 9 \\ \hline \end{array}$

18.  $\begin{array}{r} 0 \\ \times 5 \\ \hline \end{array}$

19.  $\begin{array}{r} 0 \\ \times 6 \\ \hline \end{array}$

20.  $\begin{array}{r} 0 \\ \times 7 \\ \hline \end{array}$

21.  $\begin{array}{r} 0 \\ \times 8 \\ \hline \end{array}$

22.  $\begin{array}{r} 0 \\ \times 9 \\ \hline \end{array}$

# PRACTICE

Multiply.

$$\begin{array}{r} 1. \quad 5 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 0 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 2 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 1 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 0 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 5 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 1 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 8 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 5 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 8 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 0 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 9 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 1 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 6 \\ \times 0 \\ \hline \end{array}$$

16. Copy and complete the table.

	0	1	2	3	4	5	6	7	8	9
$\times 0$										
$\times 1$										

Solve.

17. Terrible Toys packs Dracula Dolls one to a box.  
How many dolls are there in a carton of 6 boxes?

18. When 6 tea sets were packed, the covers for  
the teapots were forgotten. How many teapot  
covers were there in the 6 tea sets?

## No Challenge

How much is  $0 \times 100$ ?  
 $0 \times 1000$ ?  
 $0 \times 10\,000$ ?  
 $0 \times 100\,000$ ?  
 0 times a million?

How much is  $1 \times 100$ ?  
 $1 \times 1000$ ?  
 $1 \times 10\,000$ ?  
 $1 \times 100\,000$ ?  
 1 times a million?

# A Multiplication Table

Can you multiply on a peg board?

Multiply  $4 \times 9$ .

Put a piece of string or an elastic around a  $4 \times 9$  array of pegs.  
Count the number of pegs.



$$4 \times 9 = 36$$

$$\begin{array}{r} 9 \\ \times 4 \\ \hline 36 \end{array}$$

## EXERCISES

Multiply.

$$\begin{array}{r} 1. \quad 0 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 1 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 4 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 3 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 3 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 6 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 7 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 8 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 0 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 5 \\ \times 5 \\ \hline \end{array}$$



# PRACTICE

1. Copy and complete the table.

×	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0						
1	0	1	2	3						
2	0	2	4	6						
3	0	3	6	9						
4										
5										
6										
7										
8										
9										

Multiply.

2.  $9 \times 4$

3.  $5 \times 8$

4.  $6 \times 5$

5.  $3 \times 7$

6.  $8 \times 2$

7.  $3 \times 9$

8.  $4 \times 8$

9.  $5 \times 5$

# REVIEW

Multiply.

A19

1.  $\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$

3.  $\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$

4.  $\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$

5.  $\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$

A20

6.  $\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$

7.  $\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$

8.  $\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$

9.  $\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$

10.  $\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$

A21

11.  $\begin{array}{r} 4 \\ \times 0 \\ \hline \end{array}$

12.  $\begin{array}{r} 0 \\ \times 0 \\ \hline \end{array}$

13.  $\begin{array}{r} 0 \\ \times 7 \\ \hline \end{array}$

14.  $\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$

15.  $\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$

A22

16.  $\begin{array}{r} 0 \\ \times 1 \\ \hline \end{array}$

17.  $\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$

18.  $\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$

19.  $\begin{array}{r} 4 \\ \times 0 \\ \hline \end{array}$

20.  $\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$

# 6 and 7 as Factors

A store displayed its outer space toys on 4 shelves.  
There were 6 toys on each shelf.

How many outer space toys were there?

$$6 + 6 + 6 + 6 = 24$$

$$4 \times 6 = 24$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline 24 \end{array}$$

There were 24 space toys on the shelves.

The store received some more space toys,  
so they put 7 toys on each shelf.

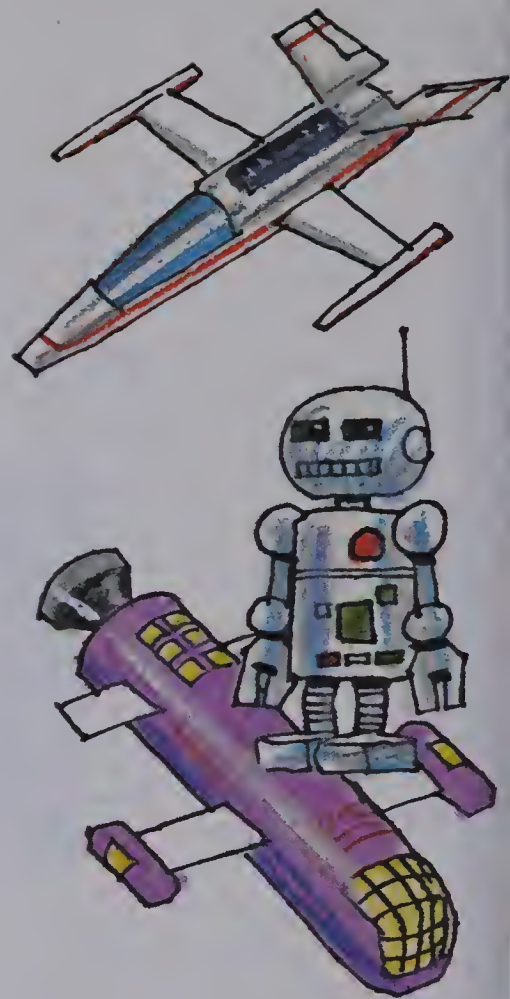
Then how many space toys were there?

$$7 + 7 + 7 + 7 = 28$$

$$4 \times 7 = 28$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline 28 \end{array}$$

There were 28 space toys on the shelves.



## EXERCISES

Add or multiply.

1.  $6 + 6 + 6 + 6 + 6$

2.  $5 \times 6$

3.  $6 \times 5$

4.  $7 + 7 + 7 + 7 + 7$

5.  $5 \times 7$

6.  $7 \times 5$

Multiply.

7.  $\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$

8.  $\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$

9.  $\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$

10.  $\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$

11.  $\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$

12.  $\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$

13.  $\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$

14.  $\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$

15.  $\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$

16.  $\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$

# PRACTICE

Multiply.

$$\begin{array}{r} 1. \quad 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 6 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 8 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 6 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 6 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 7 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 7 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 8 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 9 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 9 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 8 \\ \times 6 \\ \hline \end{array}$$

16. Copy and complete the table.

	0	1	2	3	4	5	6	7	8	9
$\times 6$										
$\times 7$										

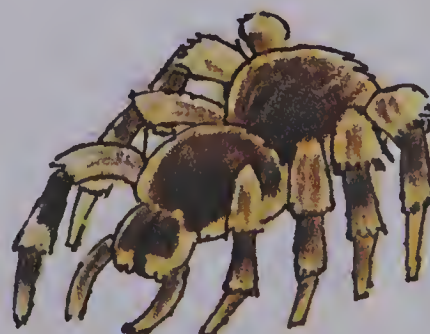
Solve.

17. Toycraft sells a Bionic Cat for \$7.  
How much should they charge for 9 cats?

18. The Toycraft factory has been working  
10 hours a day 7 days a week for 8 weeks  
to keep up with orders.  
How many days in a row have they been open?

## For Consumers

Tempting Toys is offering rubber tarantulas on sale at  
3 for \$5. How much should they charge a store that  
orders 15 rubber tarantulas?





# 8 and 9 as Factors

A novelty company sells bags of cat's eye marbles.  
There are 8 marbles in a bag.

How many marbles are there in 5 bags?

$$8 + 8 + 8 + 8 + 8 = 40$$

$$5 \times 8 = 40$$

$$\begin{array}{r} 8 \\ \times 5 \\ \hline 40 \end{array}$$



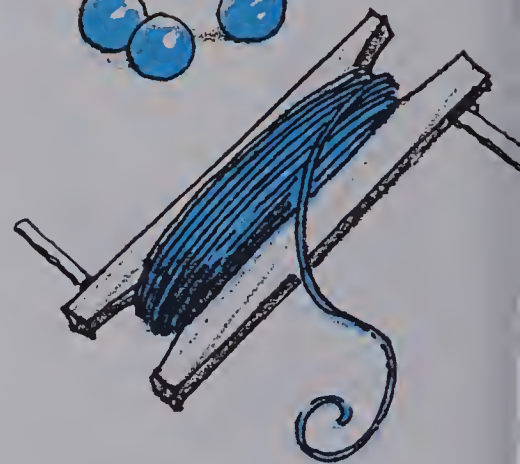
In 5 bags there are 40 marbles.

Their kite string rollers are packed 9 in a box.  
How many rollers are there in 4 boxes?

$$9 + 9 + 9 + 9 = 36$$

$$4 \times 9 = 36$$

$$\begin{array}{r} 9 \\ \times 4 \\ \hline 36 \end{array}$$



In 4 boxes there are 36 rollers.

## EXERCISES

Add or multiply.

1.  $8 + 8 + 8 + 8 + 8$

2.  $5 \times 8$

3.  $8 \times 5$

4.  $8 + 8 + 8 + 8 + 8 + 8$

5.  $6 \times 8$

6.  $8 \times 6$

7.  $9 + 9 + 9 + 9 + 9$

8.  $5 \times 9$

9.  $9 \times 5$

10.  $9 + 9 + 9 + 9 + 9 + 9$

11.  $6 \times 9$

12.  $9 \times 6$

Multiply.

13.  $\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$

14.  $\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$

15.  $\begin{array}{r} 8 \\ \times 9 \\ \hline \end{array}$

16.  $\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$

17.  $\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$

18.  $\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$

19.  $\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$

20.  $\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$

21.  $\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$

22.  $\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$

# PRACTICE

Multiply.

1.  $\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$

2.  $\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$

3.  $\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$

4.  $\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$

5.  $\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$

6.  $\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$

7.  $\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$

8.  $\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$

9.  $\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$

10.  $\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$

11.  $\begin{array}{r} 8 \\ \times 9 \\ \hline \end{array}$

12.  $\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$

13.  $\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$

14.  $\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$

15.  $\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$

16. Write the multiples of 8 from 8 to 80.

17. Write the multiples of 9 from 9 to 90.

Solve.

18. ABC Novelties packages water pistols 8 to a box.  
How many water pistols are there in 5 boxes?

19. The Outer Space game sells for \$9.  
How much would 2 games cost?

## Sparring Partner

Play with a partner.

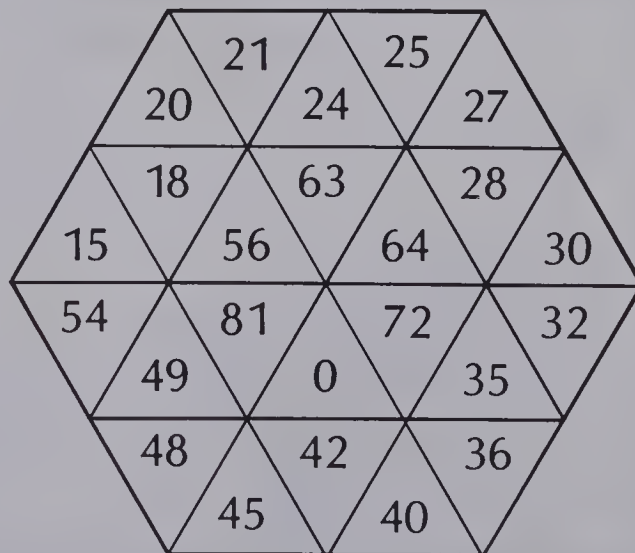
Each player needs a set of markers.

Select any two numbers from 0 to 9.

Find the product of the numbers.

Put a marker on the triangle  
which contains the product.

Take turns. The winner is the first  
to get 4 markers in a row.



# 10 as a Factor

Louise and Peter were asked to arrange 100 chairs in the auditorium for a magic show.

They decided to put the chairs in rows of 10.

When they had set up 3 rows, how many chairs were there?

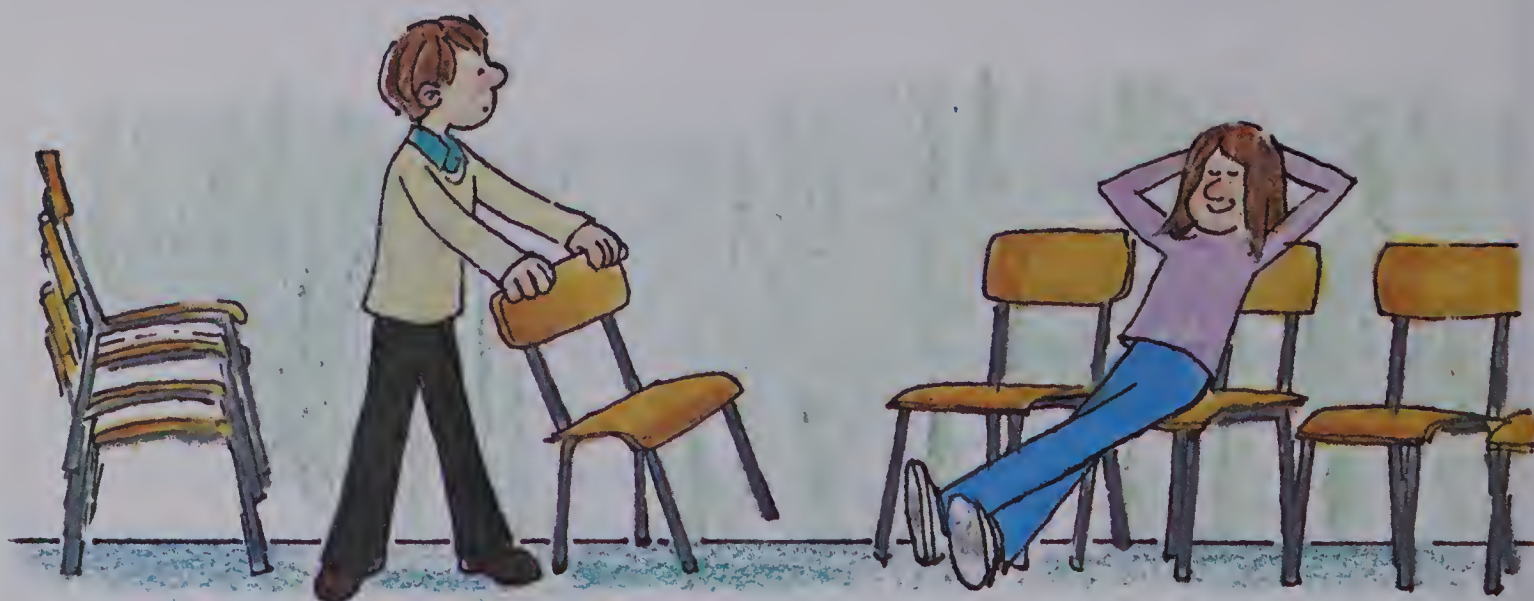
$$10 + 10 + 10 = 30$$

$$3 \text{ tens} = 30$$

$$3 \times 10 = 30$$

$$\begin{array}{r} 10 \\ \times 3 \\ \hline 30 \end{array}$$

In 3 rows there were 30 chairs.



## EXERCISES

Copy and complete the equations.

1. 4 tens = ■

2.  $4 \times 10 = \blacksquare$

3.  $10 \times 4 = \blacksquare$

4. 5 tens = ■

5.  $5 \times 10 = \blacksquare$

6.  $10 \times 5 = \blacksquare$

Multiply.

7. 
$$\begin{array}{r} 10 \\ \times 6 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 10 \\ \times 8 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 10 \\ \times 9 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 10 \\ \times 10 \\ \hline \end{array}$$



# PRACTICE

Multiply.

$$\begin{array}{r} 1. \quad 10 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 10 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 10 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 10 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 10 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 2 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 6 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 9 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 0 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 8 \\ \times 10 \\ \hline \end{array}$$

11. Make a table for the 10s.

×	0	1	2	3	4	5	6	7	8	9	10
10	0	10	20	30							

Solve.

12. By 1:00 o'clock Lou and Peter had set up 7 rows of 10 chairs each. How many chairs had they set up?

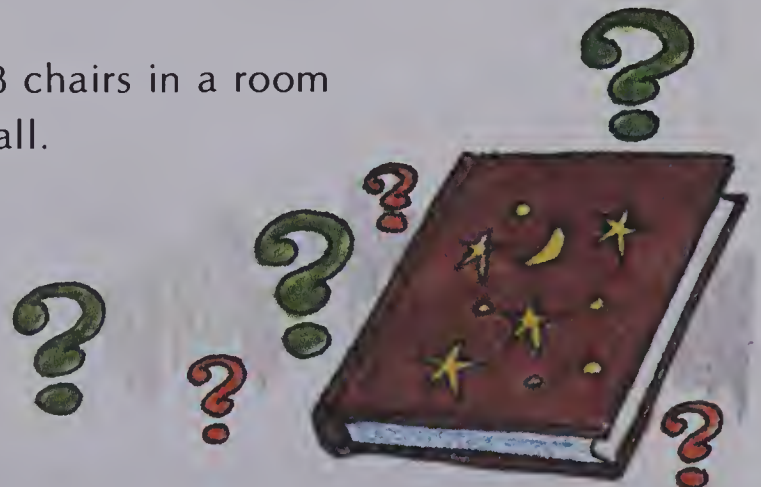
13. Goodtime Games sells a Counter Spy game for \$7. How much should the company charge a store that orders 10 of the games?

14. There are 10 bowling pins in a set. How many bowling pins are there in 10 sets?

## Brainteaser

A book of tricks shows how to arrange 8 chairs in a room so that there are 3 chairs along every wall.

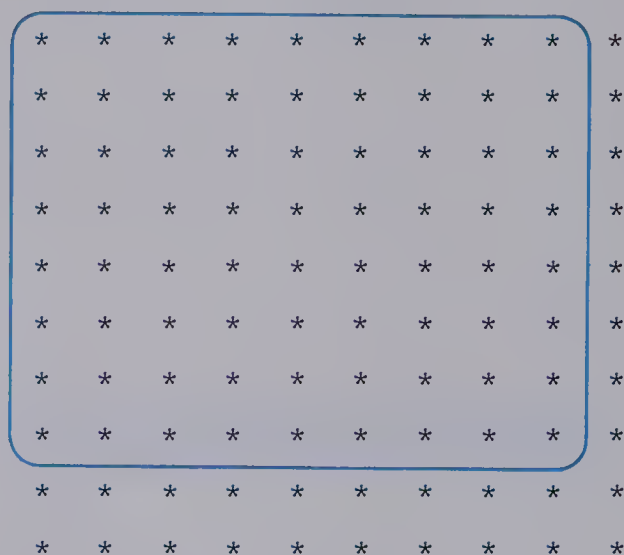
Show how the chairs are placed.



# A Multiplication Table to $10 \times 10$

What is the product of 8 and 9?

Find the answer on a 10 by 10 peg board.



$$8 \times 9 = 72$$

$$9 \times 8 = 72$$

$$\begin{array}{r} 9 \\ \times 8 \\ \hline 72 \end{array}$$

$$\begin{array}{r} 8 \\ \times 9 \\ \hline 72 \end{array}$$

## EXERCISES

Multiply.

$$\begin{array}{r} 1. \quad 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 8 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 9 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 10 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 8 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 8 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 8 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 8 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 8 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 8 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 7 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 8 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 8 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 9 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 6 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 8 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 9 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 10 \\ \times 10 \\ \hline \end{array}$$

# PRACTICE

1. Copy and complete the table.

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0							
1	0	1	2	3							
2	0	2	4	6							
3	0	3	6	9							
4											
5											
6											
7											
8											
9											
10											100

Multiply.

2.  $\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$

3.  $\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$

4.  $\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$

5.  $\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$

6.  $\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$

7.  $\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$

8.  $\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$

9.  $\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$

10.  $\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$

11.  $\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$

12.  $\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$

13.  $\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$

14.  $\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$

15.  $\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$

16.  $\begin{array}{r} 10 \\ \times 8 \\ \hline \end{array}$

17.  $\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$

18.  $\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$

19.  $\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$

20.  $\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$

21.  $\begin{array}{r} 5 \\ \times 10 \\ \hline \end{array}$

## For Consumers

Which is a better bargain:

6 boxes with 10 cards to a box,

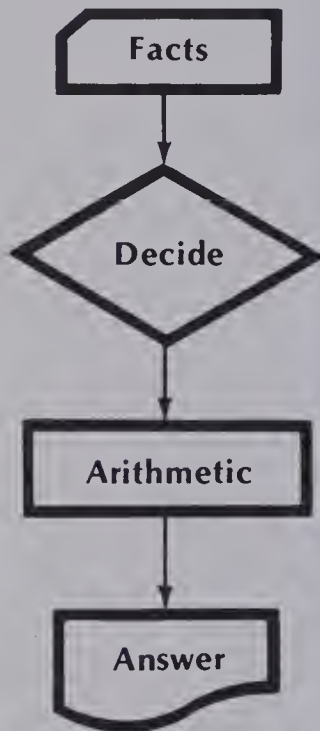
or 7 boxes with 8 cards to a box?

**BOXING DAY**  
CHRISTMAS CARD SALE  
**ALL CARDS \$1.**



# Solving Multiplication Problems

Sylvia received a set of toy soldiers.  
She set them up with 6 soldiers in a row.  
How many soldiers were there in 8 rows?



6 soldiers in a row  
8 rows

To find **how many**,  
you **multiply**.

$$8 \times 6 = 48$$

There were 48 soldiers in 8 rows.



## EXERCISES

Follow the steps to solve these problems.

1. Ron plays in a Drum and Bugle Corps. The corps marches with 4 players in a row. How many players are there in 9 rows?
2. Some members of a band need new caps. Caps cost \$9 each. How much would 8 caps cost?
3. People lined up to see a parade. At one spot on the parade route, there were 3 rows of 10 people. How many people were lined up there?
4. Each morning before school Ron practises for 10 minutes. How much does he practise in 5 mornings?

# PRACTICE

Solve.

- There are 10 jacks in each set.  
How many jacks are there in 6 sets?
- The Belinda doll has 4 dresses and 2 hats.  
How many dresses are needed for 7 dolls?
- One Comet game costs \$5.  
How much do 10 Comet games cost?
- Creative Arts packs modelling clay in 2 kg bags.  
How much clay is there in 9 bags?

Use the facts in the pictures to solve the problems.

5.



Find the total cost.

6.



How many marbles?

# REVIEW

Multiply.

A23

- |                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|
| 1.    5        | 2.    6        | 3.    8        | 4.    6        | 5.    7        | 6.    7        |
| <u>  × 6  </u> | <u>  × 6  </u> | <u>  × 6  </u> | <u>  × 7  </u> | <u>  × 7  </u> | <u>  × 8  </u> |

A24

- |                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|
| 7.    3        | 8.    8        | 9.    5        | 10.   4        | 11.   9        | 12.   8        |
| <u>  × 8  </u> | <u>  × 8  </u> | <u>  × 8  </u> | <u>  × 9  </u> | <u>  × 7  </u> | <u>  × 9  </u> |

A25

- |                |                 |                |                 |                 |                |
|----------------|-----------------|----------------|-----------------|-----------------|----------------|
| 13.   10       | 14.    7        | 15.   10       | 16.    8        | 17.   10        | 18.   10       |
| <u>  × 4  </u> | <u>  × 10  </u> | <u>  × 0  </u> | <u>  × 10  </u> | <u>  × 10  </u> | <u>  × 1  </u> |

A26

- |                |                |                |                |                |                 |
|----------------|----------------|----------------|----------------|----------------|-----------------|
| 19.    5       | 20.    6       | 21.    7       | 22.    8       | 23.    9       | 24.   10        |
| <u>  × 6  </u> | <u>  × 7  </u> | <u>  × 8  </u> | <u>  × 9  </u> | <u>  × 7  </u> | <u>  × 10  </u> |

# TEST

# UNIT 5

Draw an array.

1.  $3 \times 4$

2.  $6 \times 3$

3.  $8 \times 5$

4.  $7 \times 10$

Write two multiplication facts.

5.  $\begin{array}{c} \text{*****} \\ \text{*****} \end{array}$

6.  $\begin{array}{c} \text{*****} \\ \text{*****} \\ \text{*****} \end{array}$

7.  $\begin{array}{c} \text{****} \\ \text{****} \\ \text{****} \\ \text{****} \\ \text{****} \end{array}$

Multiply.

8.  $\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$

9.  $\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$

10.  $\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$

11.  $\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$

12.  $\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$

13.  $\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$

14.  $\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$

15.  $\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$

16.  $\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$

17.  $\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$

18.  $\begin{array}{r} 6 \\ \times 0 \\ \hline \end{array}$

19.  $\begin{array}{r} 0 \\ \times 8 \\ \hline \end{array}$

20.  $\begin{array}{r} 0 \\ \times 0 \\ \hline \end{array}$

21.  $\begin{array}{r} 1 \\ \times 5 \\ \hline \end{array}$

22.  $\begin{array}{r} 7 \\ \times 1 \\ \hline \end{array}$

23.  $\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$

24.  $\begin{array}{r} 0 \\ \times 1 \\ \hline \end{array}$

25.  $\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$

26.  $\begin{array}{r} 1 \\ \times 4 \\ \hline \end{array}$

27.  $\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$

28.  $\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$

29.  $\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$

30.  $\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$

31.  $\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$

32.  $\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$

33.  $\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$

34.  $\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$

35.  $\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$

36.  $\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$

37.  $\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$

38.  $\begin{array}{r} 4 \\ \times 10 \\ \hline \end{array}$

39.  $\begin{array}{r} 6 \\ \times 10 \\ \hline \end{array}$

40.  $\begin{array}{r} 10 \\ \times 10 \\ \hline \end{array}$

41.  $\begin{array}{r} 8 \\ \times 10 \\ \hline \end{array}$

42.  $\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$



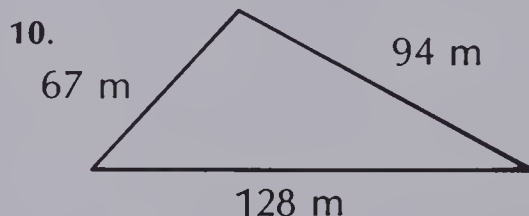
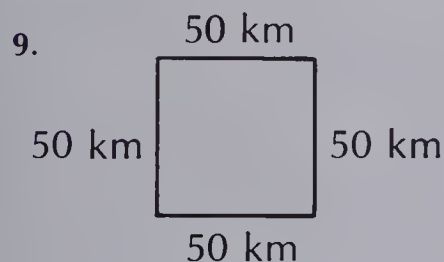
Estimate each length.

1. width of the *Looking Back* rectangle
2. length of the same rectangle

Copy and complete the equations.

- |                                      |                                       |
|--------------------------------------|---------------------------------------|
| 3. $10 \blacksquare = 1 \text{ cm}$  | 4. $1000 \blacksquare = 1 \text{ km}$ |
| 5. toothpick : $7 \blacksquare$ long | 6. dime : $1 \blacksquare$ thick      |
| 7. driveway : $22 \blacksquare$ long | 8. road : $22 \blacksquare$ long      |

What is the perimeter?



Match the object with a mass.

- |         |           |          |
|---------|-----------|----------|
| 11. 5 g | 12. 200 g | 13. 1 kg |
|---------|-----------|----------|

Answer Box

toothpaste  
nickel  
dictionary

Write each amount using a dollar sign.

- |         |        |         |
|---------|--------|---------|
| 14. 16¢ | 15. 7¢ | 16. 40¢ |
|---------|--------|---------|

Write each amount using a cent sign.

- |            |            |            |
|------------|------------|------------|
| 17. \$1.42 | 18. \$0.25 | 19. \$0.05 |
|------------|------------|------------|

Add or subtract.

- |   |   |   |   |
|---|---|---|---|
| 20. $\begin{array}{r} \$7.14 \\ + 2.67 \\ \hline \end{array}$ | 21. $\begin{array}{r} \$8.76 \\ + 8.49 \\ \hline \end{array}$ | 22. $\begin{array}{r} \$6.82 \\ - 3.52 \\ \hline \end{array}$ | 23. $\begin{array}{r} \$62.28 \\ - 40.55 \\ \hline \end{array}$ |
|---|---|---|---|

Count the change.

- |                            |                            |
|----------------------------|----------------------------|
| 24. for \$1.02 from \$2.00 | 25. for \$3.17 from \$5.00 |
|----------------------------|----------------------------|

# UNIT 6

## DIVISION

HAPPY  
BIRTHDAY

Be my  
Valentine

Happy New Year

Anniversary

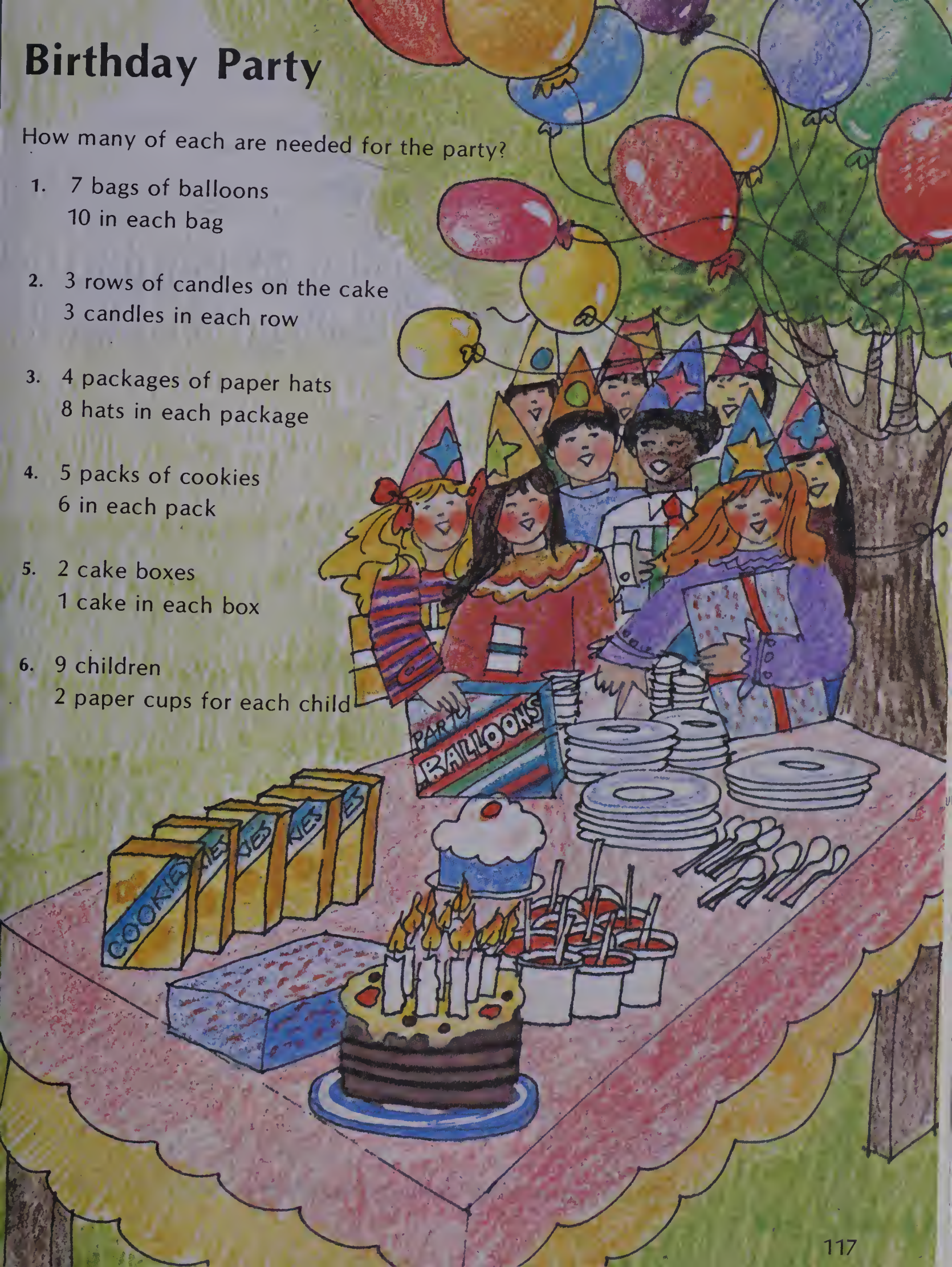
NOEL



# Birthday Party

How many of each are needed for the party?

1. 7 bags of balloons  
10 in each bag
2. 3 rows of candles on the cake  
3 candles in each row
3. 4 packages of paper hats  
8 hats in each package
4. 5 packs of cookies  
6 in each pack
5. 2 cake boxes  
1 cake in each box
6. 9 children  
2 paper cups for each child

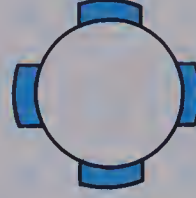
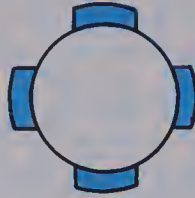
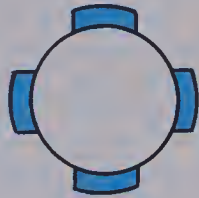




# The Meanings of Division

12 people for Thanksgiving  
4 at each dinner table  
How many tables?

12 people for Thanksgiving  
3 tables  
How many at each table?



$$3 \times 4 = 12$$

These problems can be solved by **division**.

$$12 \div 4 = 3$$

↑  
divisor

$$12 \div 3 = 4$$

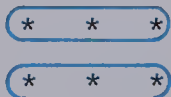
↑  
divisor

There are 3 tables of 4 people.

## EXERCISES

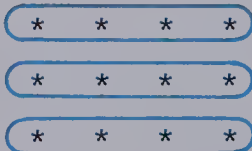
Complete the division fact.

1.



$$6 \div 3 = \blacksquare$$

2.



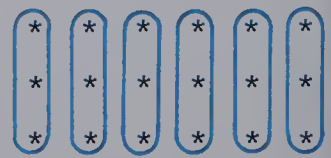
$$12 \div 4 = \blacksquare$$

3.



$$8 \div 4 = \blacksquare$$

4.



$$18 \div 3 = \blacksquare$$

Draw an array.

5.  $9 \div 3$

6.  $8 \div 4$

7.  $6 \div 6$

8.  $10 \div 2$

Write a division fact.

9.  $3 \times 8 = 24$

10.  $5 \times 3 = 15$

11.  $4 \times 6 = 24$

12.  $6 \times 6 = 36$

Write a multiplication fact.

13.  $4 \div 2 = 2$

14.  $25 \div 5 = 5$

15.  $32 \div 4 = 8$

16.  $49 \div 7 = 7$

# PRACTICE

Write two division facts.

1. \* \*  
\* \*  
\* \*  
\* \*

$$8 \div 4 = \blacksquare$$

$$8 \div 2 = \blacksquare$$

2. \* \* \* \* \*  
\* \* \* \* \*  
\* \* \* \* \*

3. \* \* \* \*  
\* \* \* \*  
\* \* \* \*  
\* \* \* \*  
\* \* \* \*  
\* \* \* \*

4. \* \* \*  
\* \* \*  
\* \* \*  
\* \* \*  
\* \* \*

Draw an array.

5.  $6 \div 2$

6.  $7 \div 7$

7.  $21 \div 3$

8.  $36 \div 9$

Write a division fact.

9.  $5 \times 6 = 30$

10.  $6 \times 3 = 18$

11.  $7 \times 10 = 70$

12.  $8 \times 7 = 56$

Write a multiplication fact.

13.  $16 \div 4 = 4$

14.  $28 \div 7 = 4$

15.  $35 \div 5 = 7$

16.  $48 \div 6 = 8$

17. A turkey dinner for 10 people costs \$50 to prepare.

Draw an array to show how much each person should pay.

18. Draw a picture to show how many turkeys are needed to have 20 drumsticks.

19. A restaurant ordered 72 dinner rolls from the bakery.

The rolls were put in 8 bread baskets.

Draw an array to show how many rolls were in each basket.

# BRAINTEASER

How can you cut a piece of string into 4 pieces with **one** cut?



## 2 and 3 as Divisors



Bill and Betty are twins.

On their birthday they received \$12 from their grandparents.

How much money should each child receive?

To find how much money each child receives, divide.

$$12 \div 2 = 6 \quad \text{or} \quad 2 \overline{)12}^6$$

Each child receives \$6.

Think:

$$2 \times 6 = 12$$

or

$$6 \times 2 = 12$$

The birthday cake was cut into 15 pieces.

Each child at the party ate 3 pieces. All the cake was eaten.

How many children were at the party?

$$15 \div 3 = 5 \quad \text{or} \quad 3 \overline{)15}^5$$

Think:

$$5 \times 3 = 15$$

There were 5 children at the party.

### EXERCISES

Copy and complete.

1.  $3 \times 2 = 6$

2.  $4 \times 2 = 8$

3.  $\blacksquare \times 2 = 10$

4.  $\blacksquare \times 2 = 2$

$6 \div 2 = \blacksquare$

$8 \div 2 = \blacksquare$

$10 \div 2 = \blacksquare$

$2 \div 2 = \blacksquare$

Divide.

5.  $12 \div 2$

6.  $14 \div 2$

7.  $16 \div 2$

8.  $18 \div 2$

9.  $2 \overline{)6}$

10.  $2 \overline{)18}$

11.  $2 \overline{)10}$

12.  $2 \overline{)4}$

Copy and complete.

13.  $2 \times 3 = 6$

14.  $3 \times 3 = 9$

15.  $\blacksquare \times 3 = 12$

16.  $\blacksquare \times 3 = 3$

$6 \div 3 = \blacksquare$

$9 \div 3 = \blacksquare$

$12 \div 3 = \blacksquare$

$3 \div 3 = \blacksquare$

Divide.

17.  $15 \div 3$

18.  $18 \div 3$

19.  $21 \div 3$

20.  $24 \div 3$

21.  $3 \overline{)24}$

22.  $3 \overline{)27}$

23.  $3 \overline{)30}$

24.  $3 \overline{)3}$



## PRACTICE

Divide. Check by multiplying.

1.  $2\overline{)18}$       2.  $2\overline{)6}$       3.  $2\overline{)16}$       4.  $2\overline{)12}$       5.  $2\overline{)10}$
6.  $3\overline{)6}$       7.  $3\overline{)12}$       8.  $3\overline{)18}$       9.  $3\overline{)27}$       10.  $3\overline{)15}$
11.  $3\overline{)24}$       12.  $2\overline{)18}$       13.  $3\overline{)21}$       14.  $2\overline{)14}$       15.  $3\overline{)3}$

16. Write the top row of the multiplication table for 2s.

×	1									
2	2	6	10	8	18	20	12	16	14	4

17. Write the top row of the multiplication table for 3s.

×	1									
3	3	30	9	18	15	27	6	21	12	24

Solve.

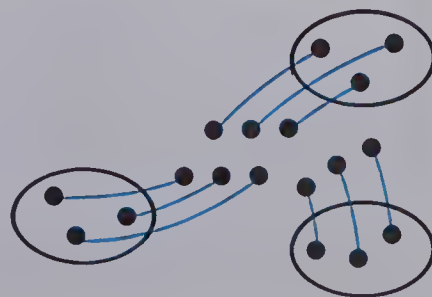
18. René and Colette received a package of 18 balloons. How many balloons should each child receive?
19. Each child at a party got 3 candies. If the whole bag of 24 candies was emptied, how many children were at the party?

## USING THE CALCULATOR

John had to separate a large collection of coins into small piles.

Show how John could use his calculator to determine the number of groups, if:

1. 54 coins were put in groups of 9 coins each
2. 30 coins were put in groups of 6 coins each
3. 72 coins were put in groups of 8 coins each
4. 56 coins were put in groups of 7 coins each
5. 36 coins were put in groups of 4 coins each



## 4 and 5 as Divisors

Mrs. Klaus bought a box of 20 Christmas cards for her 4 children. If they shared them equally, how many cards did each child get?

$$20 \div 4 = 5 \quad \text{because } 4 \times 5 = 20 \quad \begin{array}{r} 5 \\ 4 \overline{)20} \end{array}$$

Each child got 5 cards.

Mr. Klaus held a Christmas party for his children and their friends. He served 50 glasses of pop at the party. One large bottle of pop fills 5 glasses. How many large bottles were used?

$$50 \div 5 = 10 \quad \text{because } 10 \times 5 = 50 \quad \begin{array}{r} 10 \\ 5 \overline{)50} \end{array}$$

Mr. Klaus used 10 large bottles.

### EXERCISES

Copy and complete.

1. $1 \times 4 = 4$	2. $2 \times 4 = 8$	3. $\blacksquare \times 4 = 12$	4. $\blacksquare \times 4 = 16$
$4 \div 4 = \blacksquare$	$8 \div 4 = \blacksquare$	$12 \div 4 = \blacksquare$	$16 \div 4 = \blacksquare$

Divide.

5. $20 \div 4$	6. $24 \div 4$	7. $4 \overline{)28}$	8. $4 \overline{)32}$	9. $4 \overline{)36}$
----------------	----------------	-----------------------	-----------------------	-----------------------

Copy and complete.

10. $1 \times 5 = 5$	11. $2 \times 5 = 10$	12. $\blacksquare \times 5 = 15$	13. $\blacksquare \times 5 = 20$
$5 \div 5 = \blacksquare$	$10 \div 5 = \blacksquare$	$15 \div 5 = \blacksquare$	$20 \div 5 = \blacksquare$

Divide.

14. $25 \div 5$	15. $30 \div 5$	16. $5 \overline{)35}$	17. $5 \overline{)40}$	18. $5 \overline{)45}$
-----------------	-----------------	------------------------	------------------------	------------------------

## PRACTICE

Divide. Check by multiplying.

1.  $4 \overline{)12}$       2.  $4 \overline{)32}$       3.  $4 \overline{)20}$       4.  $4 \overline{)40}$       5.  $4 \overline{)24}$
6.  $5 \overline{)10}$       7.  $5 \overline{)15}$       8.  $5 \overline{)30}$       9.  $5 \overline{)45}$       10.  $5 \overline{)40}$
11.  $5 \overline{)35}$       12.  $4 \overline{)28}$       13.  $5 \overline{)50}$       14.  $4 \overline{)4}$       15.  $4 \overline{)36}$

16. Write the top row of the multiplication chart for 4s.

×	1	3	2							
4	4	12	8	36	20	40	28	32	24	16

17. Write the top row of the multiplication chart for 5s.

×	2	1	3							
5	10	5	15	35	25	30	20	50	45	40

Solve.

18. Terry made booklets for Christmas gifts. She copied and illustrated 12 poems. She put 4 poems in each booklet. How many booklets did she make?
19. Grandmother Klaus sent \$5 to each of her grandchildren as a Christmas gift. She spent \$45 on these gifts. How many grandchildren received the gift?
20. How many dollar bills should you receive for 36 quarters?

## Dazed and Weak

Donna just washed her bike. She does this chore every 5 days. How many times does she wash it in 5 weeks?





# 1 and 0 in Division

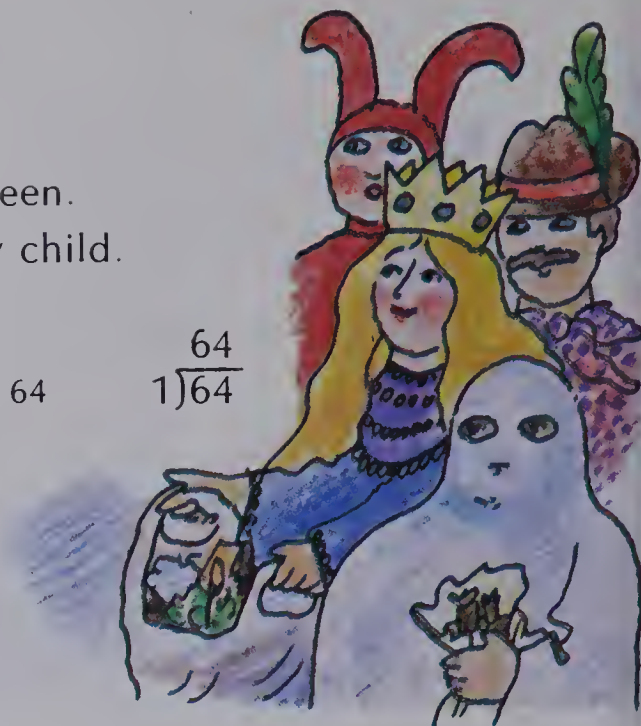
Mr. Love bought 64 bags of candy for Halloween.  
He gave away all the candy, one bag to every child.  
How many children received a bag of candy?

$$64 \div 1 = 64$$

$$\text{because } 64 \times 1 = 64$$

$$\begin{array}{r} 64 \\ 1 \overline{)64} \end{array}$$

64 children received a bag of candy.



Ms. Spence didn't buy any candies for Halloween.  
Her 4 grandchildren came to the door.  
If the children shared equally, how many candies did each one get?

$$0 \div 4 = 0$$

$$\text{because } 4 \times 0 = 0$$

$$\begin{array}{r} 0 \\ 4 \overline{)0} \end{array}$$

Each child received 0 candies.

## EXERCISES

Copy and complete.

1.  $3 \times 1 = 3$

2.  $6 \times 1 = 6$

3.  $\blacksquare \times 1 = 8$

4.  $\blacksquare \times 1 = 9$

$3 \div 1 = \blacksquare$

$6 \div 1 = \blacksquare$

$8 \div 1 = \blacksquare$

$9 \div 1 = \blacksquare$

Divide.

5.  $4 \div 1$

6.  $10 \div 1$

7.  $1 \overline{)7}$

8.  $1 \overline{)8}$

9.  $1 \overline{)9}$

Copy and complete.

10.  $0 \times 2 = 0$

11.  $0 \times 5 = 0$

12.  $\blacksquare \times 7 = 0$

13.  $\blacksquare \times 8 = 0$

$0 \div 2 = \blacksquare$

$0 \div 5 = \blacksquare$

$0 \div 7 = \blacksquare$

$0 \div 8 = \blacksquare$

Divide.

14.  $0 \div 3$

15.  $0 \div 1$

16.  $7 \overline{)0}$

17.  $8 \overline{)0}$

18.  $9 \overline{)0}$

# PRACTICE

Divide. Check by multiplying.

1.  $1\overline{)3}$

2.  $1\overline{)4}$

3.  $1\overline{)5}$

4.  $1\overline{)9}$

5.  $1\overline{)6}$

6.  $3\overline{)0}$

7.  $5\overline{)0}$

8.  $6\overline{)0}$

9.  $8\overline{)0}$

10.  $9\overline{)0}$

11.  $1\overline{)7}$

12.  $7\overline{)0}$

13.  $1\overline{)8}$

14.  $10\overline{)0}$

15.  $0\overline{)0}$

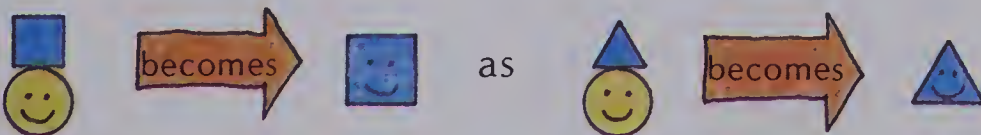
Solve.

16. As a Halloween special, Betty's father received a bag of 12 candy bars free. What did each candy bar cost him?
17. Prizes worth \$25 were to be given to the winners of a Halloween contest. There was only 1 winner. How much did that person receive?

## Analogies

Copy and complete each analogy.

Make some of your own.



	→		as		→	
	→		as		→	
	→		as		→	
	→		as		→	

# Using a Multiplication Table to Divide

Can you find the answer for  $24 \div 4$  by using the multiplication table?

Find **4** in the column under the times sign.

Follow that row until you come to **24**.

Follow that column until you get to the top.

The answer is **6**.

x	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30					
7	0	7	14	21	28	35					
8	0	8	16	24	32	40					
9	0	9	18	27	36	45					
10	0	10	20	30	40	50					

Can you find the answer another way?

## EXERCISES

Divide. Use the multiplication table.

1.  $3 \div 3$
2.  $6 \div 3$
3.  $9 \div 3$
4.  $12 \div 3$
5.  $16 \div 4$
6.  $20 \div 4$
7.  $24 \div 4$
8.  $28 \div 4$
9.  $2 \overline{)14}$
10.  $2 \overline{)16}$
11.  $2 \overline{)18}$
12.  $2 \overline{)20}$
13.  $5 \overline{)30}$
14.  $5 \overline{)35}$
15.  $5 \overline{)40}$
16.  $5 \overline{)45}$



# PRACTICE

Divide. Use the multiplication table.

- |                       |                       |                      |                       |                       |
|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|
| 1. $5\overline{)30}$  | 2. $4\overline{)12}$  | 3. $3\overline{)27}$ | 4. $2\overline{)14}$  | 5. $1\overline{)9}$   |
| 6. $4\overline{)40}$  | 7. $2\overline{)12}$  | 8. $5\overline{)25}$ | 9. $3\overline{)24}$  | 10. $0\overline{)0}$  |
| 11. $2\overline{)10}$ | 12. $3\overline{)21}$ | 13. $1\overline{)8}$ | 14. $5\overline{)15}$ | 15. $4\overline{)32}$ |
| 16. $5\overline{)5}$  | 17. $3\overline{)30}$ | 18. $2\overline{)2}$ | 19. $4\overline{)36}$ | 20. $1\overline{)7}$  |

Solve.

21. Four straws were given to each child at a party for a game. In all, 32 straws were given out. How many children were playing the game?
22. The girls changed their shoes to play in the gym. They left 18 shoes and 3 sweaters in the locker room. How many girls were playing in the gym?

# REVIEW

Divide.

- |     |                       |                       |                       |                       |                       |
|-----|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A28 | 1. $2\overline{)2}$   | 2. $2\overline{)8}$   | 3. $2\overline{)12}$  | 4. $2\overline{)6}$   | 5. $2\overline{)18}$  |
|     | 6. $3\overline{)15}$  | 7. $3\overline{)27}$  | 8. $3\overline{)30}$  | 9. $3\overline{)24}$  | 10. $3\overline{)12}$ |
| A29 | 11. $4\overline{)12}$ | 12. $4\overline{)32}$ | 13. $4\overline{)28}$ | 14. $4\overline{)36}$ | 15. $4\overline{)8}$  |
|     | 16. $5\overline{)30}$ | 17. $5\overline{)40}$ | 18. $5\overline{)15}$ | 19. $5\overline{)35}$ | 20. $5\overline{)45}$ |
| A30 | 21. $1\overline{)4}$  | 22. $1\overline{)1}$  | 23. $1\overline{)5}$  | 24. $1\overline{)9}$  | 25. $1\overline{)7}$  |
|     | 26. $9\overline{)0}$  | 27. $8\overline{)0}$  | 28. $2\overline{)0}$  | 29. $1\overline{)0}$  | 30. $0\overline{)0}$  |
| A31 | 31. $1\overline{)10}$ | 32. $2\overline{)20}$ | 33. $3\overline{)18}$ | 34. $4\overline{)4}$  | 35. $5\overline{)50}$ |
|     | 36. $3\overline{)21}$ | 37. $5\overline{)25}$ | 38. $4\overline{)16}$ | 39. $2\overline{)14}$ | 40. $3\overline{)6}$  |

# 6 and 7 as Divisors

On Mother's day, Carla bought 6 red roses for her mother. She paid \$12 altogether.

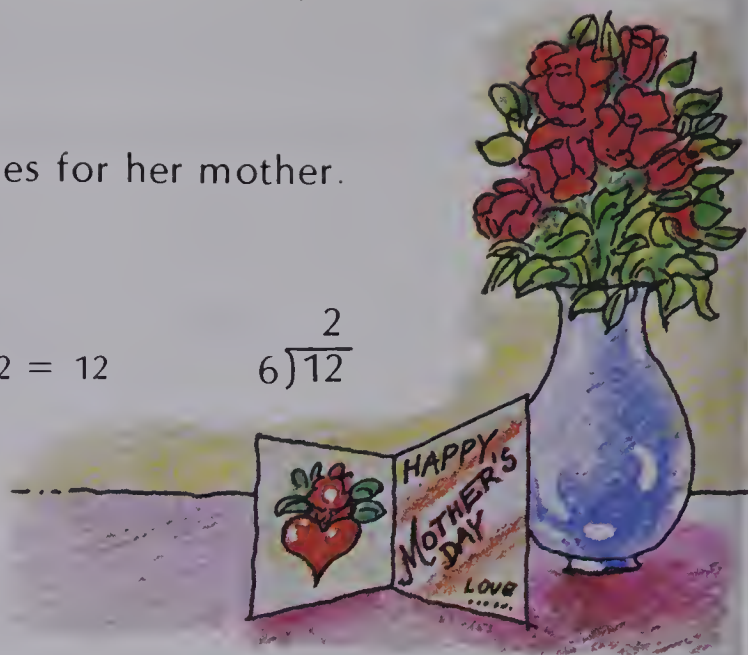
How much did each rose cost?

$$12 \div 6 = 2$$

$$\text{because } 6 \times 2 = 12$$

$$\begin{array}{r} 2 \\ 6 \overline{)12} \end{array}$$

Each rose cost \$2.



Mario promised to do errands for his mother without being coaxed. In the next 7 weeks he did 28 errands.

About how many errands did Mario do each week?

$$28 \div 7 = 4$$

$$\text{because } 7 \times 4 = 28$$

$$\begin{array}{r} 4 \\ 7 \overline{)28} \end{array}$$

Mario did about 4 errands each week.

## EXERCISES

Copy and complete.

1.  $3 \times 6 = 18$     2.  $6 \times 6 = 36$     3.  $\blacksquare \times 6 = 42$     4.  $\blacksquare \times 6 = 48$   
 $18 \div 6 = \blacksquare$      $36 \div 6 = \blacksquare$      $42 \div 6 = \blacksquare$      $48 \div 6 = \blacksquare$

Divide.

5.  $6 \overline{)36}$     6.  $6 \overline{)42}$     7.  $6 \overline{)48}$     8.  $6 \overline{)54}$     9.  $6 \overline{)6}$

Copy and complete.

10.  $2 \times 7 = 14$     11.  $6 \times 7 = 42$     12.  $\blacksquare \times 7 = 49$     13.  $\blacksquare \times 7 = 56$   
 $14 \div 7 = \blacksquare$      $42 \div 7 = \blacksquare$      $49 \div 7 = \blacksquare$      $56 \div 7 = \blacksquare$

Divide.

14.  $7 \overline{)42}$     15.  $7 \overline{)49}$     16.  $7 \overline{)56}$     17.  $7 \overline{)63}$     18.  $7 \overline{)7}$

## PRACTICE

Divide. Check by multiplying

1.  $6 \overline{)18}$

2.  $6 \overline{)36}$

3.  $6 \overline{)48}$

4.  $6 \overline{)60}$

5.  $6 \overline{)54}$

6.  $7 \overline{)7}$

7.  $7 \overline{)21}$

8.  $7 \overline{)42}$

9.  $7 \overline{)63}$

10.  $7 \overline{)49}$

11.  $6 \overline{)42}$

12.  $7 \overline{)35}$

13.  $6 \overline{)30}$

14.  $7 \overline{)56}$

15.  $7 \overline{)70}$

16. Write the top row of the multiplication chart for 6s.

×	1	2	3							
6	6	12	18	24	30	36	42	48	54	60

17. Write the top row of the multiplication chart for 7s.

×	1	2	3							
7	7	14	21	28	35	42	49	56	63	70

Solve.

18. Lily-Rose Florists sold \$56 worth of flowers at \$7 a bunch on Mother's Day. How many bunches did they sell?

19. Six stems of daisies had 30 flowers. About how many flowers were there on each stem?

## On Tour

"The Meanies" are a new rock group. They played in all the cities in the chart and had one night off between cities. How many weeks were they on tour?



### Schedule

Whitehorse	1 night
Vancouver	3 nights
Calgary	4 nights
Winnipeg	2 nights
Toronto	3 nights
Montreal	3 nights
Halifax	3 nights
St. John's	2 nights



# 8 and 9 as Divisors

Vicky invited 8 children to her Valentine's party.

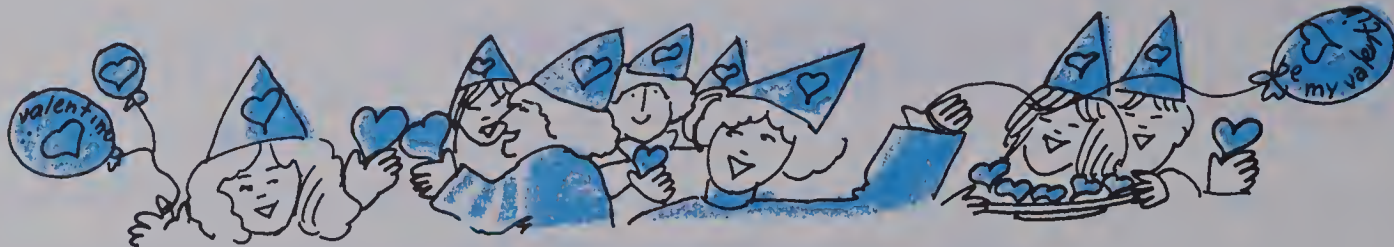
Her mother bought 32 special Valentine cookies for the party.

The cookies were shared equally.

How many cookies did each child get?

$$32 \div 8 = 4 \quad \text{because } 8 \times 4 = 32 \quad 8 \overline{)32}^4$$

Each child got 4 cookies.



Hugh had 45 valentines which he sorted into 9 equal piles.

How many valentines were in each pile?

$$45 \div 9 = 5 \quad \text{because } 9 \times 5 = 45 \quad 9 \overline{)45}^5$$

There were 5 in each pile.

## EXERCISES

Copy and complete.

1.  $2 \times 8 = 16$     2.  $6 \times 8 = 48$     3.  $\blacksquare \times 8 = 56$     4.  $\blacksquare \times 8 = 64$   
 $16 \div 8 = \blacksquare$      $48 \div 8 = \blacksquare$      $56 \div 8 = \blacksquare$      $64 \div 8 = \blacksquare$

Divide.

5.  $8 \overline{)48}$     6.  $8 \overline{)56}$     7.  $8 \overline{)64}$     8.  $8 \overline{)72}$     9.  $8 \overline{)80}$

Copy and complete.

10.  $3 \times 9 = 27$     11.  $6 \times 9 = 54$     12.  $\blacksquare \times 9 = 63$     13.  $\blacksquare \times 9 = 72$   
 $27 \div 9 = \blacksquare$      $54 \div 9 = \blacksquare$      $63 \div 9 = \blacksquare$      $72 \div 9 = \blacksquare$

Divide.

14.  $9 \overline{)54}$     15.  $9 \overline{)63}$     16.  $9 \overline{)72}$     17.  $9 \overline{)81}$     18.  $9 \overline{)9}$

# PRACTICE

Divide. Check by multiplying.

1.  $8 \overline{)24}$
2.  $8 \overline{)40}$
3.  $8 \overline{)64}$
4.  $8 \overline{)80}$
5.  $8 \overline{)72}$
6.  $9 \overline{)9}$
7.  $9 \overline{)45}$
8.  $9 \overline{)63}$
9.  $9 \overline{)90}$
10.  $9 \overline{)54}$
11.  $8 \overline{)56}$
12.  $9 \overline{)72}$
13.  $8 \overline{)48}$
14.  $9 \overline{)81}$
15.  $8 \overline{)8}$

16. Write the top row of the multiplication chart for 8s.

×	1	3	2							
8	8	24	16	32	72	64	56	40	48	80

17. Write the top row of the multiplication chart for 9s.

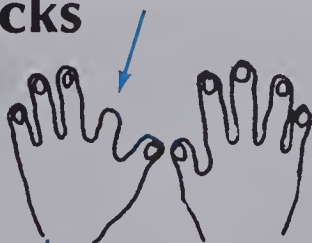
×	2	1	3							
9	18	9	27	81	45	72	63	90	54	36

Solve.

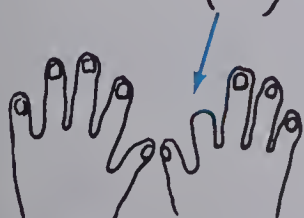
18. There are 8 people in Teresa's family. For Valentine's Day, they sent 64 cards. If everyone sent the same number of cards, how many did each person send?
19. A candy company packs chocolate-covered Brazil nuts in bags of 9. How many bags are needed to pack 72 nuts?

## Finger Tricks

Describe how



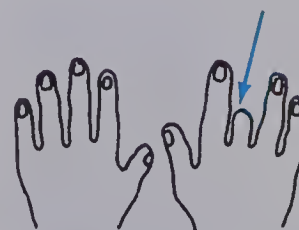
shows  $4 \times 9 = 36$



■  $\times 9 =$  ■



■  $\times 9 =$  ■



■  $\times 9 =$  ■

# 10 as a Divisor

Brown School had a picnic. The principal brought along 80 prizes. He gave 10 to each class for their games and races. How many classes were at the picnic?

$$80 \div 10 = 8$$

$$\text{because } 8 \times 10 = 80$$

$$\begin{array}{r} 8 \\ 10 \overline{)80} \end{array}$$

There were 8 classes at the picnic.



## EXERCISES

Copy and complete.

1.  $2 \times 10 = 20$     2.  $5 \times 10 = 50$     3.  $\blacksquare \times 10 = 70$     4.  $\blacksquare \times 10 = 90$   
 $20 \div 10 = \blacksquare$      $50 \div 10 = \blacksquare$      $70 \div 10 = \blacksquare$      $90 \div 10 = \blacksquare$

Divide.

5.  $10 \overline{)10}$     6.  $10 \overline{)40}$     7.  $10 \overline{)60}$     8.  $10 \overline{)70}$   
9.  $10 \overline{)20}$     10.  $10 \overline{)50}$     11.  $10 \overline{)90}$     12.  $10 \overline{)100}$



## PRACTICE

Divide. Check by multiplying.

1.  $10 \overline{)30}$       2.  $10 \overline{)40}$       3.  $10 \overline{)70}$       4.  $10 \overline{)0}$       5.  $10 \overline{)50}$
6.  $10 \overline{)20}$       7.  $10 \overline{)10}$       8.  $10 \overline{)80}$       9.  $10 \overline{)100}$       10.  $10 \overline{)90}$
11.  $9 \overline{)63}$       12.  $8 \overline{)56}$       13.  $9 \overline{)72}$       14.  $7 \overline{)49}$       15.  $6 \overline{)54}$

16. Write the top row of the multiplication chart for 10s.

x	0	1									
10	0	10	20	60	90	50	30	70	80	40	100

Solve.

17. In the 10 cases of mixed soda pop there were 100 bottles of orange. About how many orange were in each case?
18. Tim picked up 40 interesting stones along the beach. He sorted them into 10 equal piles. How many were in each pile?
19. Two teams had a tug of war. 20 children joined in. If the teams were equal, how many children were on each team?

## USING THE CALCULATOR

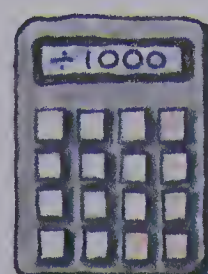
Use a calculator to do several problems. Look for a pattern. Then do as many problems as you can without using the machine. Use the calculator to check your answers.

3 000  
25 000  
618 000  
9 000  
327 000  
49 000



What's the rule?

3 000  
25 000  
618 000  
9 000  
327 000  
49 000



What's the rule?

# Using a Multiplication Table to Divide

You have learned all the division facts you will ever need to know. All these facts can be found on the multiplication table.

Do you know the answer to  $72 \div 8$ ?

Check by finding it on the table.

$\times$	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

## EXERCISES

Divide. Use the multiplication table to check.

1.  $18 \div 6$

2.  $24 \div 6$

3.  $30 \div 6$

4.  $36 \div 6$

5.  $36 \div 9$

6.  $45 \div 9$

7.  $54 \div 9$

8.  $63 \div 9$

9.  $7 \overline{)21}$

10.  $7 \overline{)28}$

11.  $7 \overline{)35}$

12.  $7 \overline{)42}$

13.  $8 \overline{)56}$

14.  $8 \overline{)64}$

15.  $8 \overline{)72}$

16.  $8 \overline{)80}$

## PRACTICE

Divide. Use the multiplication table to check.

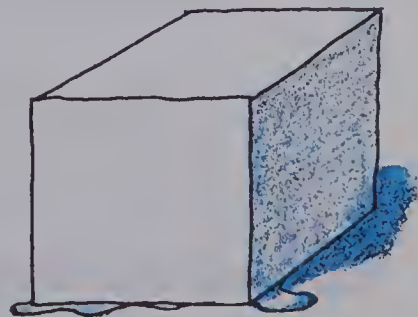
- |                        |                        |                         |                        |                        |
|------------------------|------------------------|-------------------------|------------------------|------------------------|
| 1. $6\overline{)6}$    | 2. $6\overline{)30}$   | 3. $6\overline{)42}$    | 4. $6\overline{)54}$   | 5. $6\overline{)60}$   |
| 6. $7\overline{)21}$   | 7. $7\overline{)35}$   | 8. $7\overline{)42}$    | 9. $7\overline{)49}$   | 10. $7\overline{)56}$  |
| 11. $8\overline{)16}$  | 12. $8\overline{)32}$  | 13. $8\overline{)48}$   | 14. $8\overline{)72}$  | 15. $8\overline{)80}$  |
| 16. $9\overline{)0}$   | 17. $9\overline{)18}$  | 18. $9\overline{)36}$   | 19. $9\overline{)54}$  | 20. $9\overline{)81}$  |
| 21. $10\overline{)10}$ | 22. $10\overline{)20}$ | 23. $10\overline{)40}$  | 24. $10\overline{)60}$ | 25. $10\overline{)90}$ |
| 26. $6\overline{)18}$  | 27. $7\overline{)28}$  | 28. $8\overline{)24}$   | 29. $9\overline{)27}$  | 30. $10\overline{)30}$ |
| 31. $8\overline{)64}$  | 32. $6\overline{)48}$  | 33. $10\overline{)100}$ | 34. $9\overline{)72}$  | 35. $5\overline{)45}$  |

Solve.

36. The principal of Rainbow School bought 10 new books for each classroom. He bought 90 books in all. How many classrooms were there?
37. The total cost of \$81 for new records was shared by 9 classrooms. How much did each classroom have to pay?
38. The Parents' Club donated \$54 for new sports equipment. Six classrooms shared it equally. How much did each classroom get?

## Cut That Out

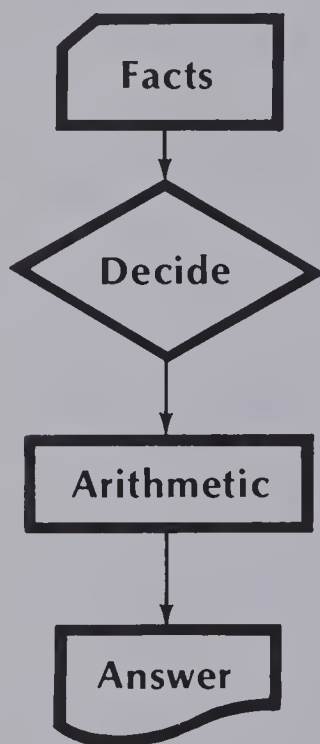
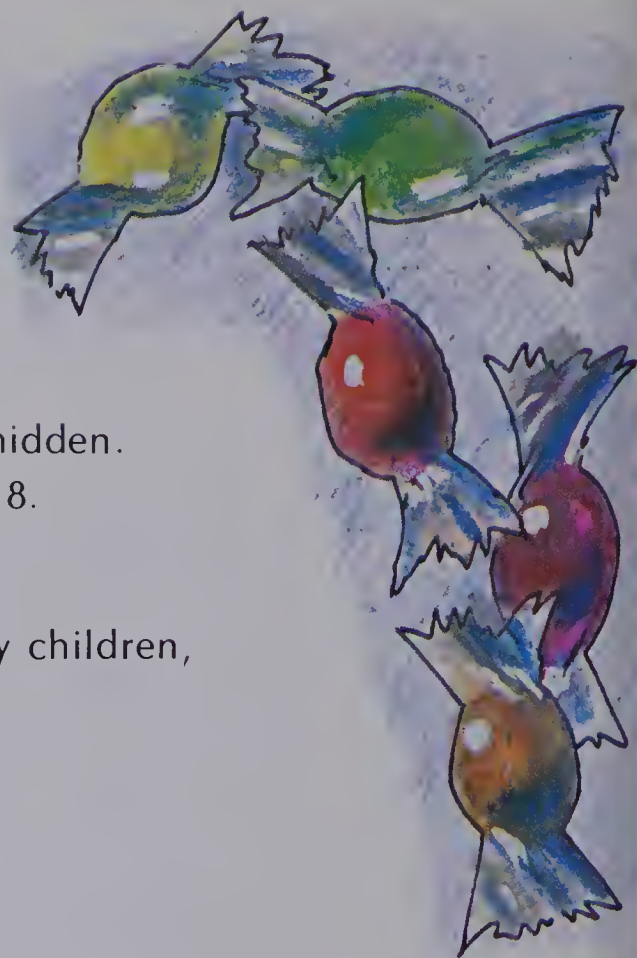
How can you cut a cube-shaped package of ice cream into 6 equal pieces with only 3 straight cuts with a knife?





# Problem Solving

For a Candy Hunt, 56 candies were hidden.  
Each child in the Hunt found 8 candies.  
How many children hunted for the candy?



56 candies were hidden.  
Each child found 8.

To find **how many** children,  
you can **divide**.

$$56 \div 8 = 7$$

7 children hunted for the candy.

## EXERCISES

Solve.

1. A candy company packs Easter eggs in packages of 3.  
How many packages do you need to have 15 eggs?
2. At a bakery, a package of 6 special Halloween cookies sells for 60¢.  
How much does each cookie cost?
3. At a party, 8 children bring 6 baseball cards each.  
How many cards are there in all?
4. Uncle Matt had 24 old coins and 18 stamps.  
He gave them to his 3 nephews to share equally.  
How many coins did each nephew get?

# PRACTICE

Solve.

- Joan's mother bought 70 birth announcement cards. They came in packages of 10. How many packages did she buy?
- In Alex's family, the 4 children shared 24 pictures that their dad brought home. How many pictures did each one get?

Write and solve a story problem for each picture.

3.



4.



# REVIEW

Divide.

A32

1.  $6 \overline{)12}$

2.  $6 \overline{)18}$

3.  $6 \overline{)21}$

4.  $6 \overline{)36}$

5.  $6 \overline{)48}$

6.  $7 \overline{)0}$

7.  $7 \overline{)14}$

8.  $7 \overline{)28}$

9.  $7 \overline{)63}$

10.  $7 \overline{)70}$

A33

11.  $8 \overline{)8}$

12.  $8 \overline{)24}$

13.  $8 \overline{)40}$

14.  $8 \overline{)56}$

15.  $8 \overline{)64}$

16.  $9 \overline{)27}$

17.  $9 \overline{)45}$

18.  $9 \overline{)63}$

19.  $9 \overline{)72}$

20.  $9 \overline{)90}$

A34

21.  $10 \overline{)0}$

22.  $10 \overline{)30}$

23.  $10 \overline{)50}$

24.  $10 \overline{)80}$

25.  $10 \overline{)100}$

A35

26.  $6 \overline{)18}$

27.  $7 \overline{)21}$

28.  $8 \overline{)32}$

29.  $9 \overline{)81}$

30.  $10 \overline{)90}$

31.  $8 \overline{)72}$

32.  $10 \overline{)70}$

33.  $6 \overline{)54}$

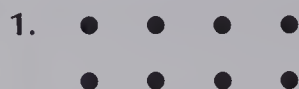
34.  $9 \overline{)54}$

35.  $7 \overline{)42}$

# TEST

# UNIT 6

Write 2 division facts for each array.



Write a division fact.

3.  $5 \times 3 = 15$

4.  $4 \times 7 = 28$

5.  $8 \times 9 = 72$

Divide.

6.  $2 \overline{)6}$

7.  $2 \overline{)14}$

8.  $2 \overline{)20}$

9.  $3 \overline{)21}$

10.  $3 \overline{)27}$

11.  $4 \overline{)12}$

12.  $4 \overline{)20}$

13.  $5 \overline{)25}$

14.  $5 \overline{)35}$

15.  $5 \overline{)50}$

16.  $1 \overline{)4}$

17.  $1 \overline{)7}$

18.  $1 \overline{)1}$

19.  $2 \overline{)0}$

20.  $8 \overline{)0}$

21.  $6 \overline{)36}$

22.  $6 \overline{)30}$

23.  $7 \overline{)14}$

24.  $7 \overline{)49}$

25.  $7 \overline{)56}$

26.  $8 \overline{)24}$

27.  $8 \overline{)40}$

28.  $8 \overline{)64}$

29.  $9 \overline{)72}$

30.  $9 \overline{)54}$

31.  $10 \overline{)0}$

32.  $10 \overline{)40}$

33.  $10 \overline{)50}$

34.  $10 \overline{)80}$

35.  $10 \overline{)100}$

Solve.

36. At a party, 30 cookies were shared.  
Each person ate 3 cookies and 2 pieces of fruit.  
How many people were at the party?
37. At Wolfe Public School, 72 children turned out for a Sports Day.  
They were divided into teams of 8.  
How many teams were there?
38. There are 6 charms on each bracelet.  
48 charms would be enough for how many bracelets?



## MULTIPLICATION

Write 2 multiplication facts for each array.

1.  $\begin{array}{ccc} * & * & * \\ * & * & * \\ * & * & * \\ * & * & * \end{array}$

2.  $\begin{array}{cccccc} * & * & * & * & * & * \\ * & * & * & * & * & * \\ * & * & * & * & * & * \end{array}$

Write a multiplication fact.

3.  $8 + 8 + 8 = 24$     4.  $6 + 6 + 6 + 6 + 6 = 30$     5.  $3 + 3 + 3 = 9$

Multiply.

6.  $\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$

7.  $\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$

9.  $\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$

10.  $\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$

11.  $\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$

12.  $\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$

13.  $\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$

14.  $\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$

15.  $\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$

16.  $\begin{array}{r} 0 \\ \times 6 \\ \hline \end{array}$

17.  $\begin{array}{r} 1 \\ \times 5 \\ \hline \end{array}$

18.  $\begin{array}{r} 8 \\ \times 0 \\ \hline \end{array}$

19.  $\begin{array}{r} 8 \\ \times 1 \\ \hline \end{array}$

20.  $\begin{array}{r} 0 \\ \times 0 \\ \hline \end{array}$

21.  $\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$

22.  $\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$

23.  $\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$

24.  $\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$

25.  $\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$

26.  $\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$

27.  $\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$

28.  $\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$

29.  $\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$

30.  $\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$

31.  $\begin{array}{r} 10 \\ \times 3 \\ \hline \end{array}$

32.  $\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$

33.  $\begin{array}{r} 7 \\ \times 10 \\ \hline \end{array}$

34.  $\begin{array}{r} 1 \\ \times 10 \\ \hline \end{array}$

35.  $\begin{array}{r} 10 \\ \times 10 \\ \hline \end{array}$

Solve.

36. Larry earns \$5 an hour working at a hamburger stand.  
He worked 8 hours Saturday.  
How much did he earn?

# UNIT 7

## FRACTIONS & DECIMALS





# Symmetry

Which pictures of snowflakes are symmetric?



1.



2.



3.



4.



5.



6.



7.



8.



9. How many **lines of symmetry** does each snowflake have?



# Fractions: Part of a Whole



A hockey game has 3 periods.  
Each period is a **third** of the game.

One third of the clock is shaded.  
 $\frac{1}{3}$  is shaded.



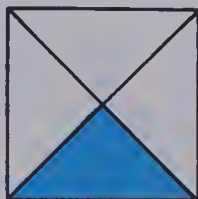
$$\frac{1}{3}$$

1 ← numerator  
3 ← denominator

## EXERCISES

What fraction of each whole is shaded?

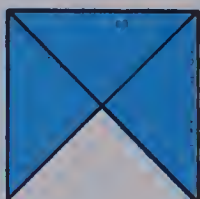
1.



2.



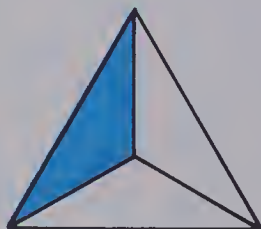
3.



4.



5.



6.



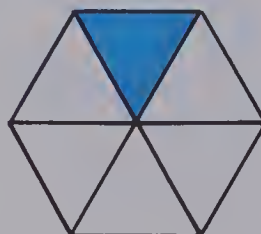
7.



8.



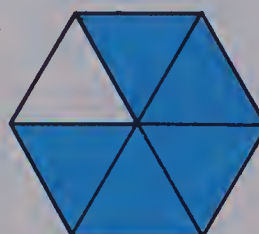
9.



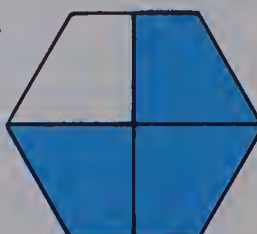
10.



11.

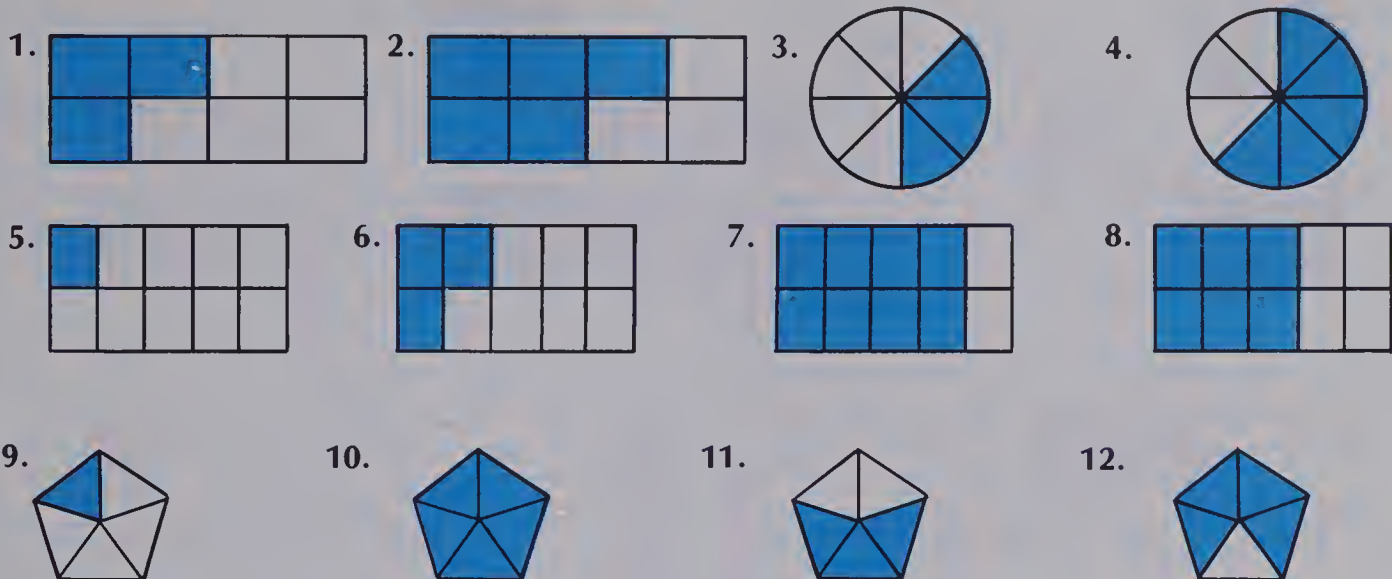


12.



# PRACTICE

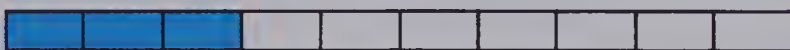
Write a fraction for the shaded part.



13. Draw two different pictures to show the meaning of  $\frac{5}{6}$ .

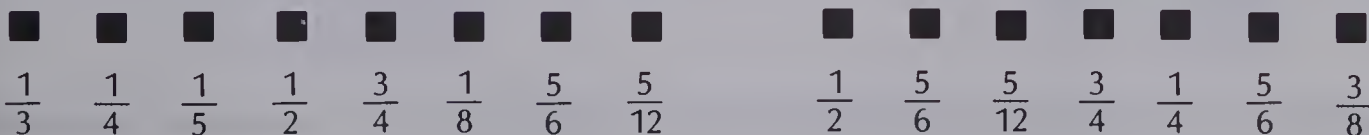
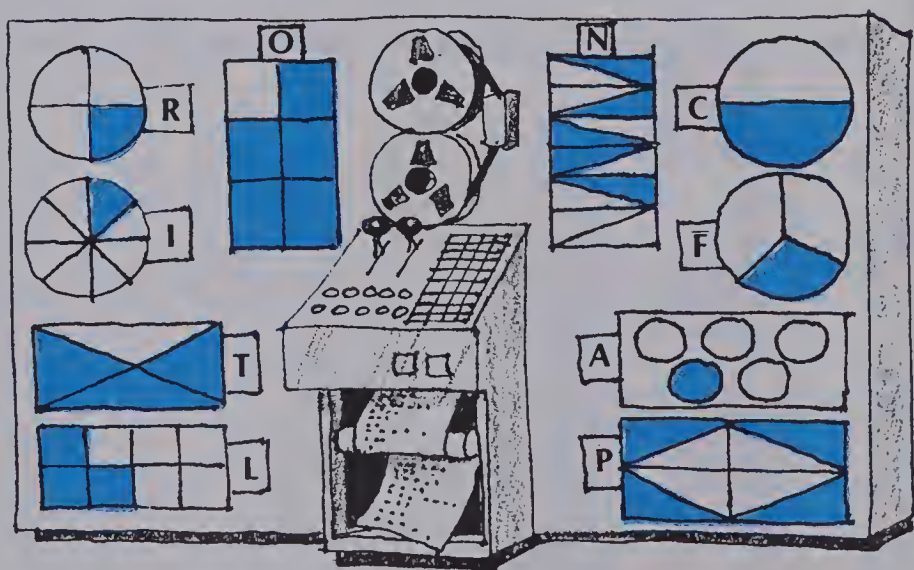
Solve.

14. One 1980 Olympic Women's Cross Country Ski event was 10 km long. When Barbara Petzold had finished 3 km, what fraction had she finished?

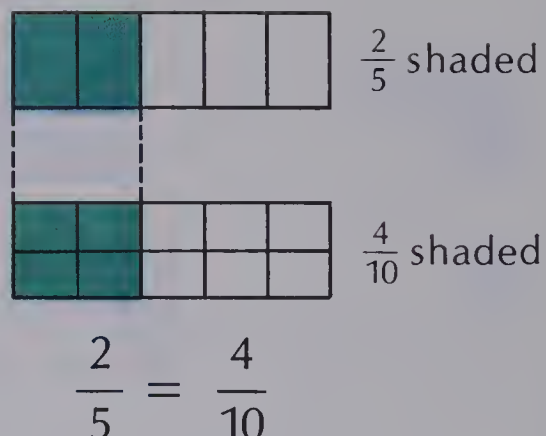
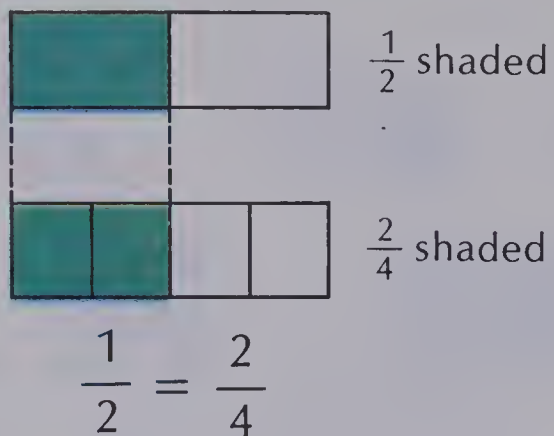


## Secret Message!

Can you decode the computer's secret message?



# Equivalent Fractions

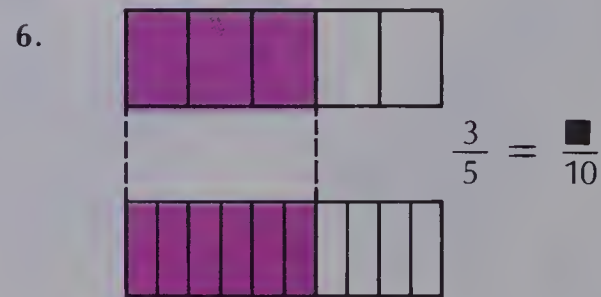
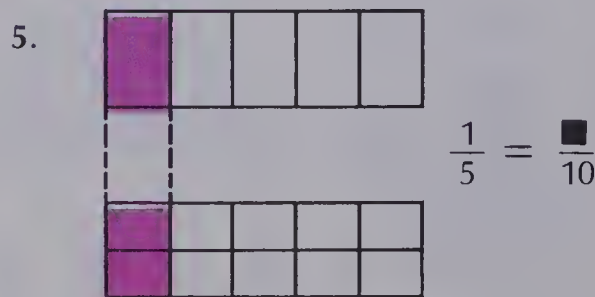


$\frac{1}{2}$  and  $\frac{2}{4}$  are **equivalent fractions**.

$\frac{2}{5}$  and  $\frac{4}{10}$  are equivalent fractions.

## EXERCISES

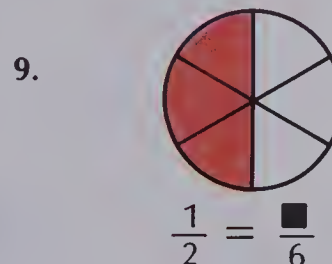
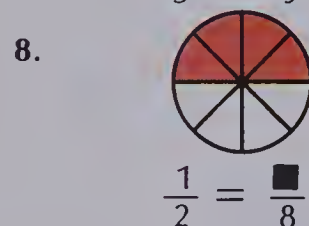
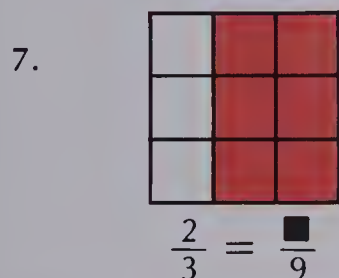
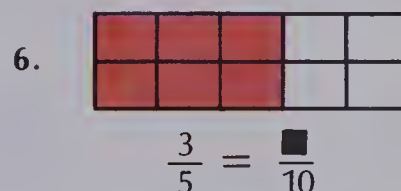
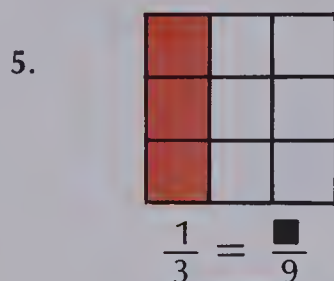
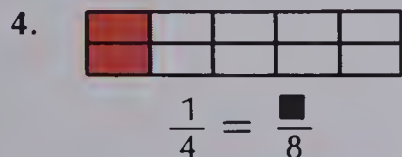
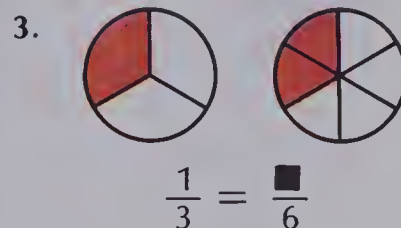
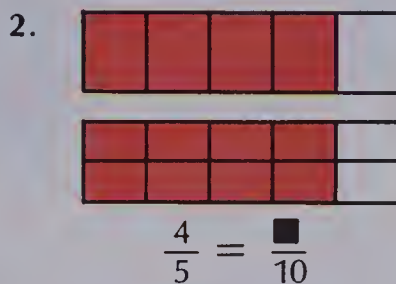
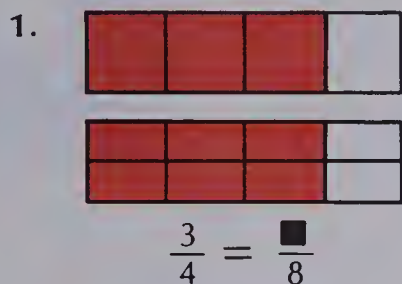
Complete each equation.





# PRACTICE

Complete each equation.



Solve.

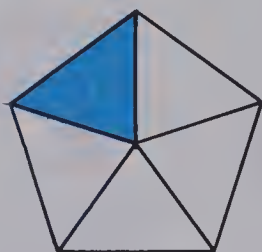
10. Joan and Sam had candy bars the same size.  
 Joan ate  $\frac{3}{4}$  of her candy bar. Sam ate  $\frac{6}{8}$  of his.  
 Draw a picture to show who ate the most.

## Just for Fun

- How many small squares are there in all?
- How many squares are used to make the **H**?
- How many squares are used to make the **i**?
- Write a fraction for the number of squares forming the **H**.
- Write a fraction for the number of squares forming the **i**.



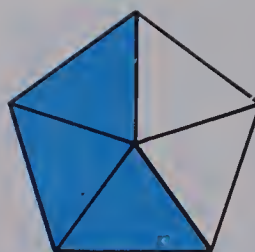
# Comparing Fractions



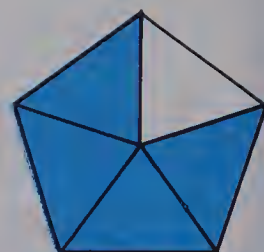
$$\frac{1}{5}$$



$$\frac{2}{5}$$



$$\frac{3}{5}$$



$$\frac{4}{5}$$

The fractions are in order from **least** to **greatest**.

Compare  $\frac{1}{5}$  and  $\frac{3}{5}$ .

Which is greater?

$$\frac{3}{5} > \frac{1}{5}$$



We are comparing fifths.  $3 > 1$ , so  $\frac{3}{5} > \frac{1}{5}$ .

Compare  $\frac{2}{6}$  and  $\frac{4}{6}$ .

Which is less?

$$\frac{2}{6} < \frac{4}{6}$$

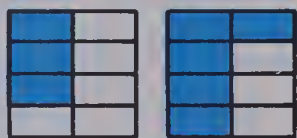


We are comparing sixths.  $2 < 4$ , so  $\frac{2}{6} < \frac{4}{6}$ .

## EXERCISES

Write  $>$  or  $<$  for each  $\blacksquare$ .

1.



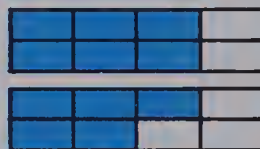
$$\frac{3}{8} \blacksquare \frac{5}{8}$$

2.



$$\frac{7}{8} \blacksquare \frac{5}{8}$$

3.



$$\frac{6}{8} \blacksquare \frac{5}{8}$$

4.



$$\frac{3}{8} \blacksquare \frac{1}{8}$$

5.

$$3 \blacksquare 5$$

6.

$$7 \blacksquare 3$$

7.

$$1 \blacksquare 3$$

8.

$$2 \blacksquare 1$$

$$\frac{3}{6} \blacksquare \frac{5}{6}$$

$$\frac{7}{8} \blacksquare \frac{3}{8}$$

$$\frac{1}{9} \blacksquare \frac{3}{9}$$

$$\frac{2}{5} \blacksquare \frac{1}{5}$$

## PRACTICE

Copy each pair of numbers.

Use  $<$  or  $>$  to make a true statement.

- |  |  |  |  |
|--|--|--|--|
| 1. $\frac{1}{8} \blacksquare \frac{4}{8}$    | 2. $\frac{2}{6} \blacksquare \frac{4}{6}$    | 3. $\frac{3}{8} \blacksquare \frac{5}{8}$    | 4. $\frac{3}{4} \blacksquare \frac{1}{4}$    |
| 5. $\frac{5}{7} \blacksquare \frac{3}{7}$    | 6. $\frac{3}{10} \blacksquare \frac{5}{10}$  | 7. $\frac{4}{5} \blacksquare \frac{2}{5}$    | 8. $\frac{7}{8} \blacksquare \frac{5}{8}$    |
| 9. $\frac{3}{5} \blacksquare \frac{2}{5}$    | 10. $\frac{9}{10} \blacksquare \frac{4}{10}$ | 11. $\frac{3}{7} \blacksquare \frac{6}{7}$   | 12. $\frac{2}{3} \blacksquare \frac{1}{3}$   |
| 13. $\frac{7}{10} \blacksquare \frac{9}{10}$ | 14. $\frac{3}{10} \blacksquare \frac{4}{10}$ | 15. $\frac{7}{10} \blacksquare \frac{8}{10}$ | 16. $\frac{2}{10} \blacksquare \frac{1}{10}$ |

Write the three fractions in order from least to greatest.

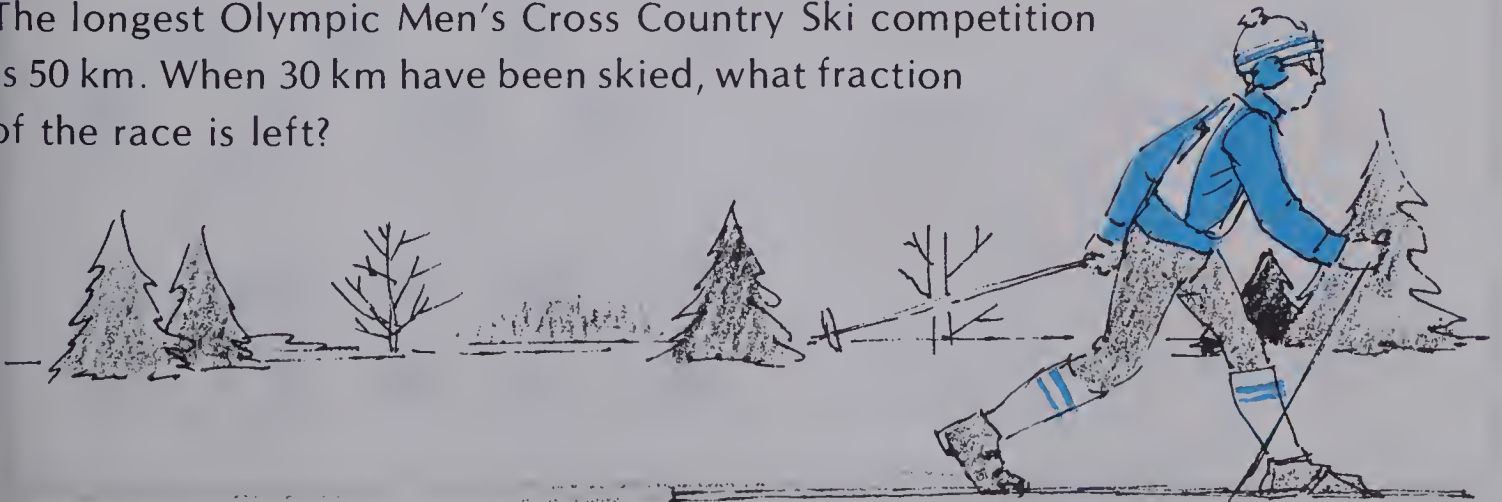
- |   |  |  |
|---|--|--|
| 17. $\frac{5}{8}, \frac{1}{8}, \frac{3}{8}$ | 18. $\frac{3}{7}, \frac{1}{7}, \frac{4}{7}$    | 19. $\frac{2}{6}, \frac{1}{6}, \frac{5}{6}$    |
| 20. $\frac{7}{9}, \frac{5}{9}, \frac{2}{9}$ | 21. $\frac{7}{10}, \frac{3}{10}, \frac{1}{10}$ | 22. $\frac{7}{10}, \frac{9}{10}, \frac{8}{10}$ |

Solve.

23. There are 4 people on each team for the Olympic Cross Country Ski Relay. Each person skies the same distance. When 1 person is finished, what fraction of the race is finished?

## Long Ski

The longest Olympic Men's Cross Country Ski competition is 50 km. When 30 km have been skied, what fraction of the race is left?





# Fractions of a Set



3 of the 5 leaves are red.

$\frac{3}{5}$  of the leaves are red.

$\frac{3}{5}$  ← red leaves  
← leaves in all

$\frac{\text{numerator}}{\text{denominator}}$  ← number described  
← number in all

## EXERCISES

Copy and complete.

1. ■ girl skaters

2.  $\frac{\blacksquare}{6}$  of the skaters are girls.



3. ■ Canadian flags

4.  $\frac{\blacksquare}{5}$  of the flags are Canadian.



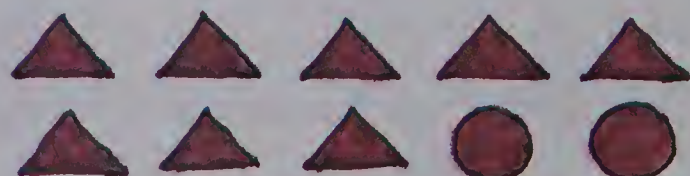
5. ■ yellow stars

6.  $\frac{\blacksquare}{8}$  of the stars are yellow.



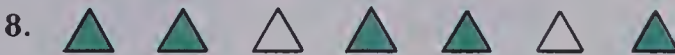
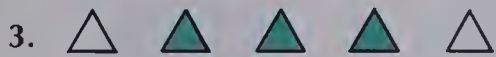
7. ■ triangles

8.  $\frac{\blacksquare}{\blacksquare}$  of the figures are triangles.



## PRACTICE

What fraction of the set is shaded?

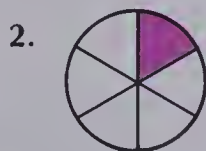
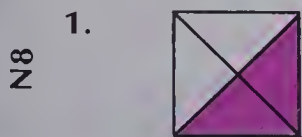


Write the fraction.

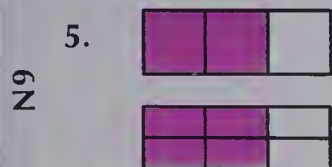
9. 6 players on a hockey team. 2 are on defence.
10. 6 gold medals for the U.S. Eric Heiden won 5 of them.
11. 38 gold medals at the 1980 Winter Olympics.  
The Soviet Union won 10.

## REVIEW

Write a fraction for the shaded part.



Complete.



$$\frac{2}{3} = \frac{\blacksquare}{6}$$



$$\frac{2}{5} = \frac{\blacksquare}{10}$$

Copy each pair of numbers.

Use  $<$  or  $>$  to make a true statement.

- N10 7.  $\frac{3}{8} \blacksquare \frac{5}{8}$       8.  $\frac{3}{3} \blacksquare \frac{2}{3}$       9.  $\frac{1}{4} \blacksquare \frac{3}{4}$       10.  $\frac{4}{5} \blacksquare \frac{2}{5}$

Write the fraction.

- N11 11. 10 hockey sticks. 2 are broken.  
12. 6 houses. 3 are white.

# Decimal Notation



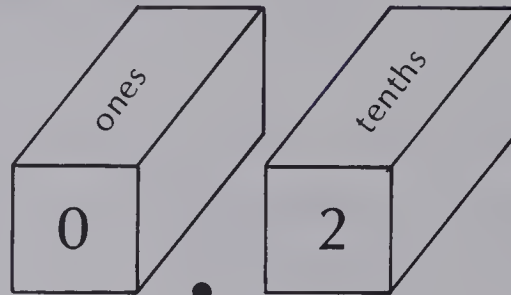
one tenth  
 $\frac{1}{10}$  0.1



three tenths  
 $\frac{3}{10}$  0.3



five tenths  
 $\frac{5}{10}$  0.5

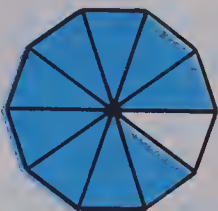


two tenths

## EXERCISES

Write the fraction and the decimal that tell how much of the picture is coloured.

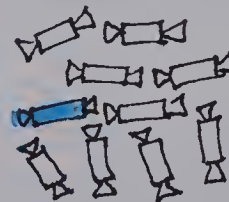
1.



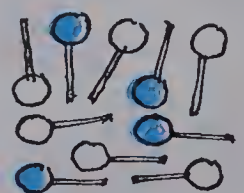
2.



3.



4.



Write as fractions.

5. 0.6

6. 0.4

7. 0.9

8. 0.2

9. 0.7

Write as decimals.

10.  $\frac{1}{10}$

11.  $\frac{8}{10}$

12.  $\frac{5}{10}$

13.  $\frac{3}{10}$

14.  $\frac{4}{10}$

Write the decimals from 0.0 to 1.0.

15. 0.0 ■ ■ ■ ■ ■ ■ ■ ■ 1.0



# PRACTICE

Write the fraction and the decimal that tell how much of the picture is *not* coloured.

1.



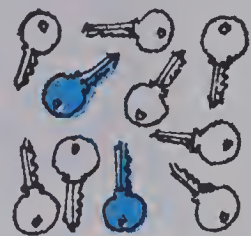
2.



3.



4.



Write as fractions.

5. 0.8

6. 0.1

7. 0.4

8. 0.5

9. 0.3

Write as decimals.

10.  $\frac{5}{10}$

11.  $\frac{3}{10}$

12.  $\frac{6}{10}$

13.  $\frac{2}{10}$

14.  $\frac{7}{10}$

Norway won 10 medals at the 1980 Winter Olympics.

15. One of the medals was gold. What decimal part of their medals were gold medals?

16. Six of the medals were bronze. What decimal part of their medals were bronze medals?

## USING THE CALCULATOR

Write each numeral.

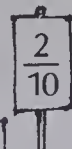
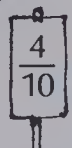
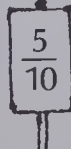
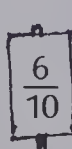
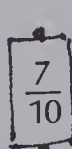
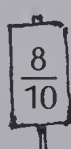
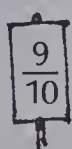
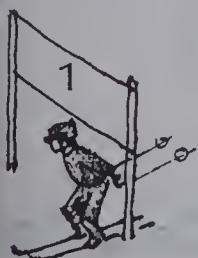
Use a calculator to find each sum.

one tenth + three tenths

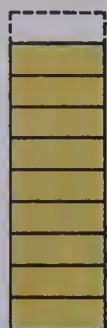
two tenths + seven tenths

four tenths + six tenths

five tenths + five tenths

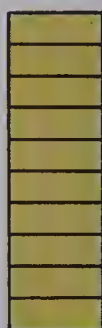


# Decimals Greater Than One



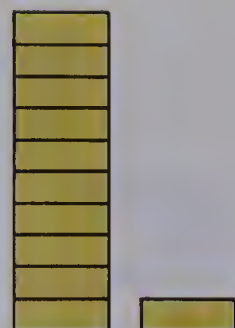
nine tenths

$$\frac{9}{10} \quad 0.9$$



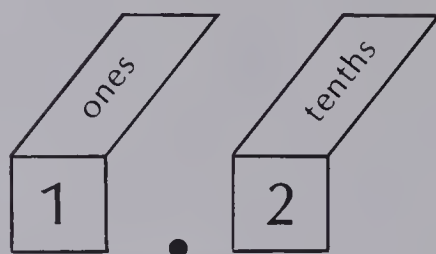
ten tenths

$$\frac{10}{10} \quad 1.0$$



eleven tenths

$$\frac{11}{10} \quad 1.1$$



one and two tenths

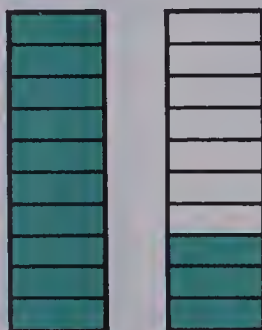
## EXERCISES

Write the fraction and the decimal that tell how much is shaded.

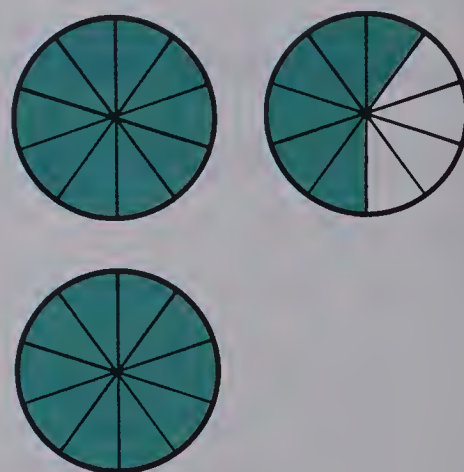
1.



2.



3.



Write as fractions.

4. 1.4

5. 1.7

6. 1.2

7. 1.5

8. 1.0

Write as decimals.

9.  $\frac{16}{10}$

10.  $\frac{11}{10}$

11.  $\frac{19}{10}$

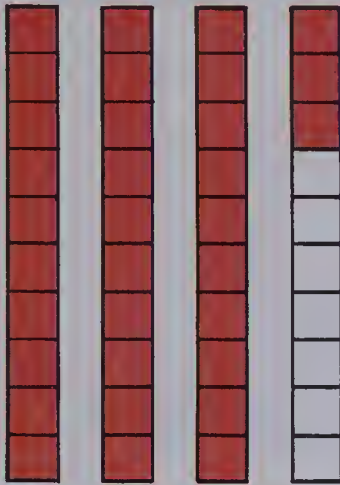
12.  $\frac{13}{10}$

13.  $\frac{18}{10}$

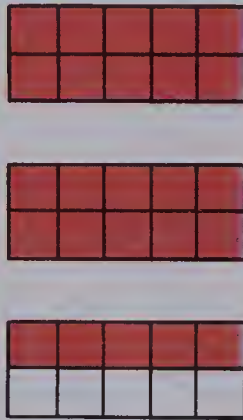
# PRACTICE

Write the decimal that tells how much is shaded.

1.



2.



3.



Write as decimals.

4.  $\frac{14}{10}$

5.  $\frac{32}{10}$

6.  $\frac{60}{10}$

7.  $\frac{17}{10}$

8.  $\frac{28}{10}$

Use  $<$ ,  $=$ , or  $>$  to make a true statement.

9.  $0.9 \blacksquare 1.9$

10.  $3.2 \blacksquare 2.3$

11.  $2.0 \blacksquare 2.1$

12.  $0.4 \blacksquare 4.0$

13.  $1.4 \blacksquare 1.2$

14.  $4.0 \blacksquare 4$

15.  $0.7 \blacksquare 2.0$

16.  $3.5 \blacksquare 3.2$

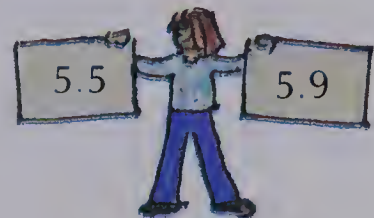
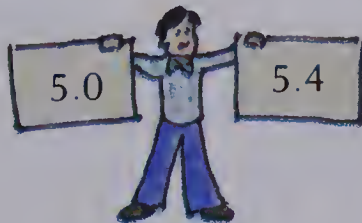
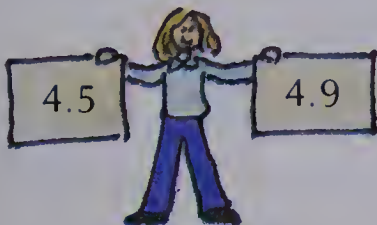
17.  $4.1 \blacksquare 3.9$

## You Be the Judge

Class 1

Class 2

Class 3



In which class does each of these cards belong?

5.4

5.7

4.8

4.9

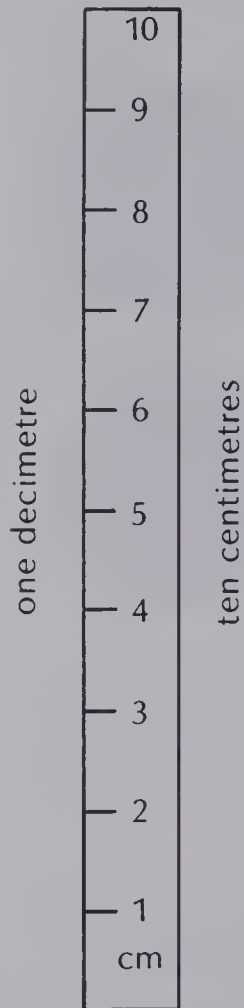
5.2

5.6

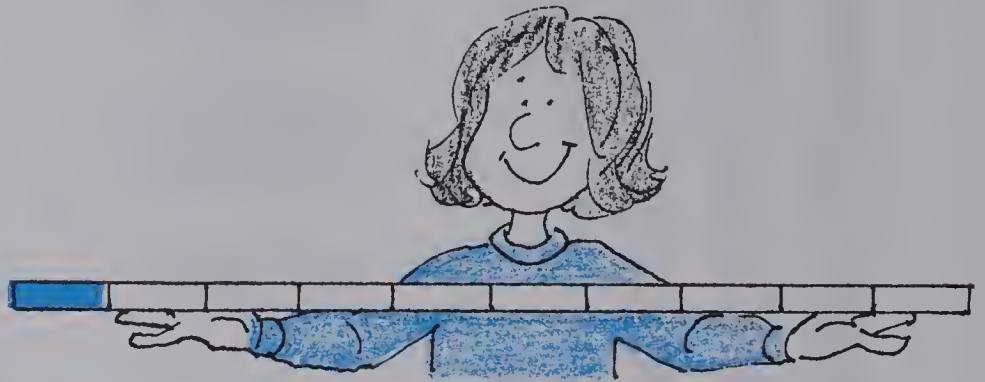
5.1



# Decimetres



A metre can be divided into 10 parts.  
Each part is called a **decimetre** (dm).



A decimetre is  $\frac{1}{10}$  of a metre.

A decimetre is 0.1 of a metre.

$$10 \text{ cm} = 1 \text{ dm}$$

$$20 \text{ cm} = 2 \text{ dm}$$

$$100 \text{ cm} = 10 \text{ dm} = 1 \text{ m}$$

## EXERCISES

Copy and complete.

1.  $10 \text{ cm} = \blacksquare \text{ dm}$

2.  $20 \text{ cm} = \blacksquare \text{ dm}$

3.  $40 \text{ cm} = \blacksquare \text{ dm}$

4.  $60 \text{ cm} = \blacksquare \text{ dm}$

5.  $\blacksquare \text{ cm} = 5 \text{ dm}$

6.  $\blacksquare \text{ cm} = 8 \text{ dm}$

What decimal part of a metre?

7.  $1 \text{ dm}$

8.  $2 \text{ dm}$

9.  $5 \text{ dm}$

10.  $6 \text{ dm}$

11.  $9 \text{ dm}$

12.  $10 \text{ dm}$

# PRACTICE

Copy and complete.

1. 30 cm = ■ dm

2. 50 cm = ■ dm

3. 70 cm = ■ dm

4. 90 cm = ■ dm

5. ■ cm = 1 dm

6. ■ cm = 2 dm

7. ■ cm = 4 dm

8. ■ cm = 10 dm

What decimal part of a metre?

9. 3 dm

10. 4 dm

11. 5 dm

12. 1 dm

13. 8 dm

14. 10 dm

How many decimetres? How many centimetres?

15. 0.1 m

16. 0.2 m

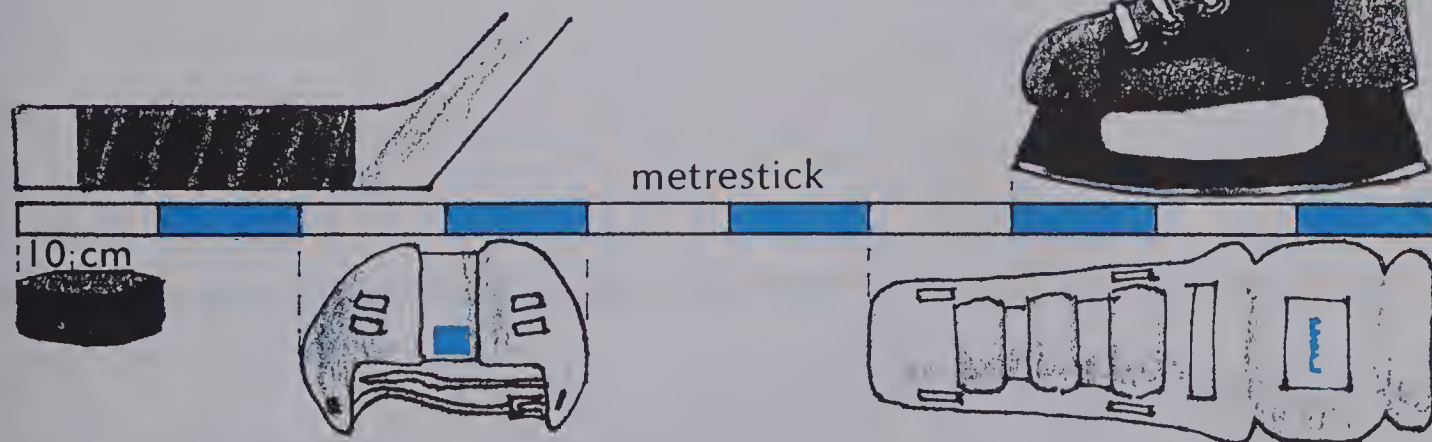
17. 0.6 m

18. 0.7 m

19. 0.5 m

20. 1 m

## Name the Hockey Lengths



Use the picture to complete these sentences.

1. The blade of the hockey stick is ■ dm long.

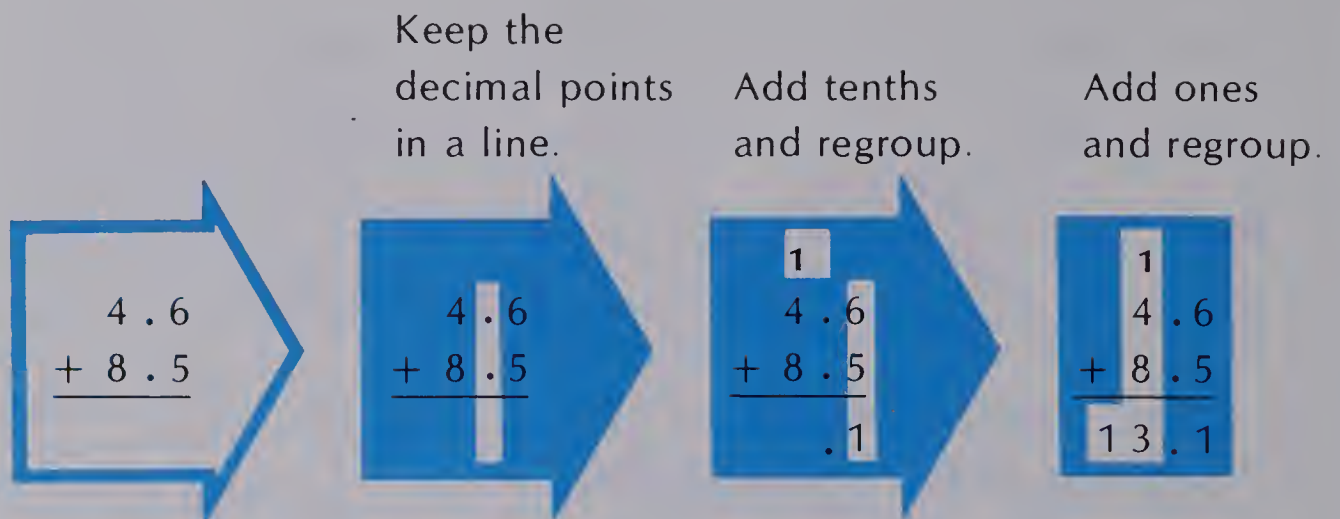
2. The hockey puck is ■ dm wide.

3. The helmet is ■ dm wide.

4. The hockey skate is ■ dm long.

5. The shin pad is ■ dm long.

# Adding Tenths



To add decimals:

Keep the decimal points in a line.

Then add.

## EXERCISES

Add.

1.  $\begin{array}{r} 0.3 \\ + 0.2 \\ \hline \end{array}$

2.  $\begin{array}{r} 0.6 \\ + 0.1 \\ \hline \end{array}$

3.  $\begin{array}{r} 0.3 \\ + 0.4 \\ \hline \end{array}$

4.  $\begin{array}{r} 1.5 \\ + 2.2 \\ \hline \end{array}$

5.  $\begin{array}{r} 6.4 \\ + 3.4 \\ \hline \end{array}$

6.  $\begin{array}{r} 23.7 \\ + 71.2 \\ \hline \end{array}$

7.  $\begin{array}{r} 49.1 \\ + 20.5 \\ \hline \end{array}$

8.  $\begin{array}{r} 304.6 \\ + 183.3 \\ \hline \end{array}$

9.  $\begin{array}{r} 637.5 \\ + 212.4 \\ \hline \end{array}$

10.  $\begin{array}{r} 4382.0 \\ + 5317.6 \\ \hline \end{array}$

11.  $\begin{array}{r} 16.3 \\ + 2.5 \\ \hline \end{array}$

12.  $\begin{array}{r} 37.4 \\ + 1.4 \\ \hline \end{array}$

13.  $\begin{array}{r} 0.9 \\ + 18.0 \\ \hline \end{array}$

14.  $\begin{array}{r} 314.5 \\ + 72.3 \\ \hline \end{array}$

15.  $\begin{array}{r} 43.2 \\ + 506.7 \\ \hline \end{array}$

16.  $0.4 + 0.2 + 0.3$

17.  $1.1 + 3.5 + 4.2$

18.  $\begin{array}{r} 0.5 \\ + 0.6 \\ \hline \end{array}$

19.  $\begin{array}{r} 1.8 \\ + 7.4 \\ \hline \end{array}$

20.  $\begin{array}{r} 7.9 \\ + 5.0 \\ \hline \end{array}$

21.  $\begin{array}{r} 27.4 \\ + 15.8 \\ \hline \end{array}$

22.  $\begin{array}{r} 347.5 \\ + 290.6 \\ \hline \end{array}$

23.  $\begin{array}{r} 91.8 \\ + 0.8 \\ \hline \end{array}$

24.  $\begin{array}{r} 37.4 \\ + 7.9 \\ \hline \end{array}$

25.  $\begin{array}{r} 8.4 \\ + 27.8 \\ \hline \end{array}$

26.  $\begin{array}{r} 329.2 \\ + 3.8 \\ \hline \end{array}$

27.  $\begin{array}{r} 496.5 \\ + 27.5 \\ \hline \end{array}$



# PRACTICE

Find the sums.

1. 
$$\begin{array}{r} 11.6 \\ + 35.6 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 25.8 \\ + 30.2 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 50.1 \\ + 24.9 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 22.5 \\ + 59.8 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 74.9 \\ + 17.0 \\ \hline \end{array}$$

6.  $86.4 + 11.9$

7.  $30.6 + 60.8$

8.  $52.5 + 30.0$

9. 
$$\begin{array}{r} 33.6 \\ + 4.5 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 2.4 \\ + 26.7 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 931.6 \\ + 42.7 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 86.7 \\ + 643.8 \\ \hline \end{array}$$

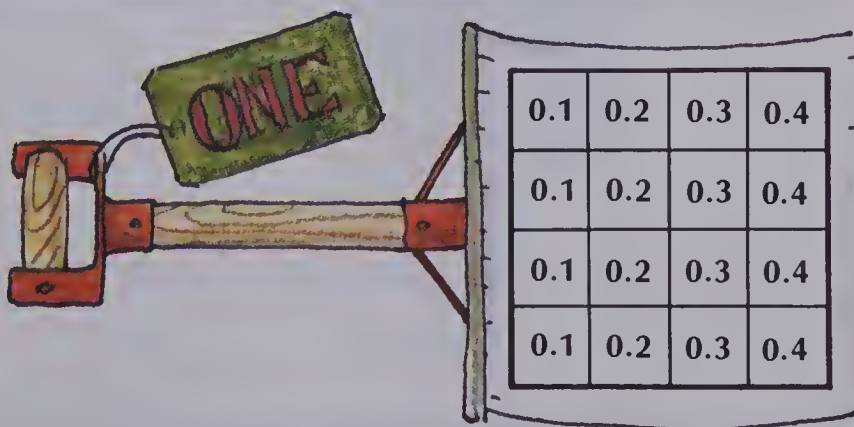
13. 
$$\begin{array}{r} 9235.5 \\ + 137.5 \\ \hline \end{array}$$

Solve.

14. At a ski jump competition, the winner had jumps of 110.5 m and 98 m. What was the total distance jumped by the winner in those two jumps?
15. In a senior men's figure skating competition, Neil received marks of 5.2, 5.3, 5.7, 5.4, 5.3, 5.4, and 5.5. His total point score was found by dropping the highest and lowest scores and adding the remaining scores. What was Neil's total score?
16. In one of the 1976 Olympic speed skating competitions, Cathy Priestner of Canada came in second. The winner's time was 42.8 seconds. Cathy's time was 0.3 seconds more. What was Cathy's time?

## Number 1.0 Shuffle

Rearrange the numbers given on the chart, so that the sum of every row and column is 1.0.



# Subtracting Tenths

Keep the  
decimal points  
in a line.

Regroup ones  
and subtract  
tenths.

Subtract  
ones.

$$\begin{array}{r} 9.5 \\ - 5.6 \\ \hline \end{array}$$

$$\begin{array}{r} 9.5 \\ - 5.6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \quad 15 \\ \cancel{9} . \cancel{5} \\ - 5.6 \\ \hline .9 \end{array}$$

$$\begin{array}{r} 8 \quad 15 \\ 9.5 \\ - 5.6 \\ \hline 3.9 \end{array}$$

To subtract decimals:

Keep the decimal points in a line.

Regroup if necessary. Then subtract.

## EXERCISES

Subtract.

1.  $\begin{array}{r} 0.8 \\ - 0.3 \\ \hline \end{array}$

2.  $\begin{array}{r} 0.6 \\ - 0.5 \\ \hline \end{array}$

3.  $\begin{array}{r} 1.5 \\ - 1.2 \\ \hline \end{array}$

4.  $\begin{array}{r} 6.9 \\ - 3.4 \\ \hline \end{array}$

5.  $\begin{array}{r} 4.9 \\ - 0.8 \\ \hline \end{array}$

6.  $\begin{array}{r} 57.4 \\ - 26.1 \\ \hline \end{array}$

7.  $\begin{array}{r} 69.2 \\ - 17.0 \\ \hline \end{array}$

8.  $\begin{array}{r} 358.6 \\ - 126.4 \\ \hline \end{array}$

9.  $\begin{array}{r} 827.9 \\ - 205.3 \\ \hline \end{array}$

10.  $\begin{array}{r} 7534.2 \\ - 6113.0 \\ \hline \end{array}$

11.  $1.9 - 1.2$

12.  $27.8 - 17.5$

13.  $342.7 - 110.5$

14.  $\begin{array}{r} 6.2 \\ - 1.7 \\ \hline \end{array}$

15.  $\begin{array}{r} 5.7 \\ - 2.9 \\ \hline \end{array}$

16.  $\begin{array}{r} 7.3 \\ - 2.8 \\ \hline \end{array}$

17.  $\begin{array}{r} 38.5 \\ - 14.9 \\ \hline \end{array}$

18.  $\begin{array}{r} 78.4 \\ - 19.0 \\ \hline \end{array}$

19.  $\begin{array}{r} 7.8 \\ - 0.3 \\ \hline \end{array}$

20.  $\begin{array}{r} 45.9 \\ - 2.3 \\ \hline \end{array}$

21.  $\begin{array}{r} 92.8 \\ - 7.1 \\ \hline \end{array}$

22.  $\begin{array}{r} 347.0 \\ - 15.9 \\ \hline \end{array}$

23.  $\begin{array}{r} 489.2 \\ - 12.7 \\ \hline \end{array}$

24.  $\begin{array}{r} 248.7 \\ - 3.9 \\ \hline \end{array}$

25.  $\begin{array}{r} 4703.8 \\ - 120.8 \\ \hline \end{array}$

26.  $\begin{array}{r} 5158.4 \\ - 38.7 \\ \hline \end{array}$

27.  $\begin{array}{r} 9427.3 \\ - 29.0 \\ \hline \end{array}$

28.  $\begin{array}{r} 2138.5 \\ - 3.9 \\ \hline \end{array}$

# PRACTICE

Find the difference.

$$\begin{array}{r} 1. \quad 89.2 \\ - 6.6 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 70.8 \\ - 44.8 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 637.4 \\ - 128.2 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 539.0 \\ - 427.8 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 481.7 \\ - 452.5 \\ \hline \end{array}$$

$$6. \quad 68.4 - 30.7$$

$$7. \quad 92.6 - 57.9$$

$$8. \quad 41.3 - 21.5$$

$$\begin{array}{r} 9. \quad 319.4 \\ - 281.7 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 4082.6 \\ - 1539.7 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 6375.0 \\ - 4109.8 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 9251.3 \\ - 4781.6 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 3000.1 \\ - 1231.4 \\ \hline \end{array}$$

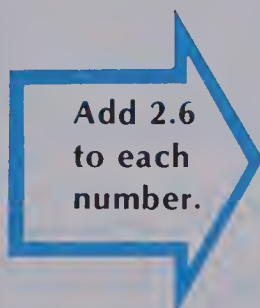
Solve.

14. In the 1980 Winter Olympics, the winner of the Big Hill Ski Jump had scores of 114.5 and 117.0. What was the difference in his two scores?
15. In a recent Big Hill Ski Jump, the winner had a total score of 234.8. The person who was second had a total score of 232.9. How many more points did the winner have?

## Let's Make Magic

The square on the left is a Magic Square. Find the magic sum and complete the square.

		2.4
3.0	1.5	3.6

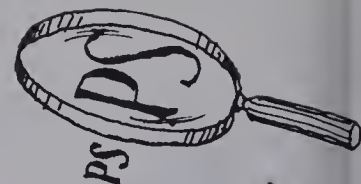


5.6		

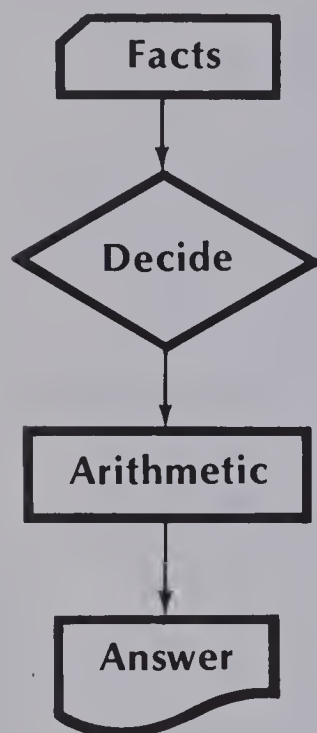
Add 2.6 to each of its numbers to make a second square. Is the second square a Magic Square? Could you have added any other number to make a new Magic Square?



# Problem Solving with Decimals



In 1976, the Olympic Small Hill Ski Jump winner had 252.0 points. In 1980, the winner had 266.3 points. How many more points did the 1980 winner have?

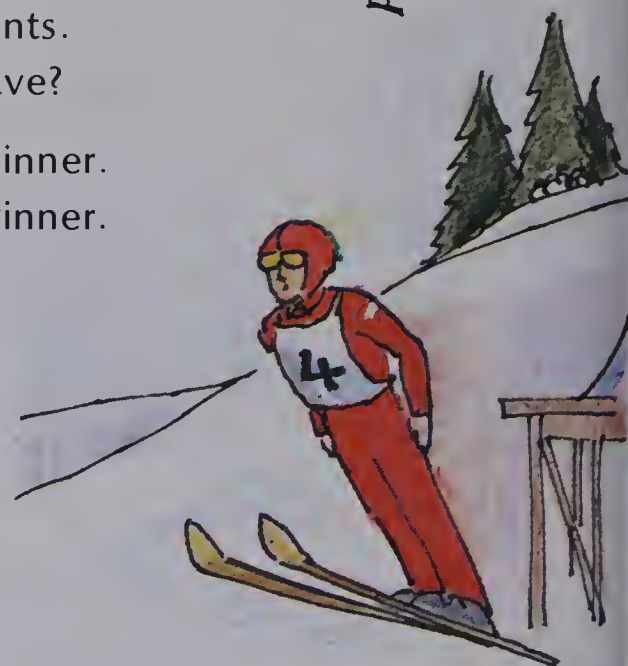


252.0 points for the 1976 winner.  
266.3 points for the 1980 winner.

To find **how many more**, we should **subtract**.

$$\begin{array}{r} 266.3 \\ - 252.0 \\ \hline 14.3 \end{array}$$

The 1980 winner had 14.3 more points.



## EXERCISES

Solve these problems.

1. In an Olympic figure skating competition, Lynn Nightingale of Canada scored 181.7 points. Kim Alletson scored 171.6 points. What was the difference in their scores?
2. In a men's figure skating competition, Toller Cranston scored 187.4 points. Stan Bohonek scored 165.9 points. How many more points did Toller Cranston get?
3. In a Speed Skating competition, Gaetan Boucher of Canada came in second with a time of 1 minute 16.7 seconds. The winner's time was 1 minute 15.2 seconds. What was the difference in their scores?

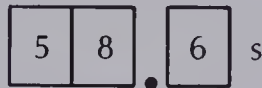
## PRACTICE

Solve.

1. In 1980, Eric Heiden won the 10 000 m Speed Skating competition. His time was 14 minutes 28.1 seconds. The previous world record was 14 minutes 34.3 seconds. By how much did Heiden break the world record?
2. To reach the Lake Placid Winter Olympics from Windsor, Mr. Allen filled up the tank with gas three times. The first time he put in 65.3 L, the second time 60.4 L, and the third time 50.2 L. How much gas did he buy?

Use the facts in the pictures to solve the problems.

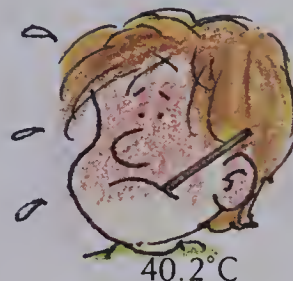
3.



Find the difference in time.

4.

37.0°C



40.2°C

How high above normal?

## REVIEW

Write as fractions.

Write as decimals.

1. 0.7

2. 0.3

3.  $\frac{4}{10}$

4.  $\frac{8}{10}$

Write as fractions.

Write as decimals.

5. 1.3

6. 1.6

7.  $\frac{15}{10}$

8.  $\frac{12}{10}$

Add.

9. 
$$\begin{array}{r} 0.4 \\ + 0.2 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 1.7 \\ + 3.2 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 7.9 \\ + 1.3 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 27.5 \\ + 8.7 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 348.4 \\ + 209.6 \\ \hline \end{array}$$

Subtract.

14. 
$$\begin{array}{r} 0.9 \\ - 0.3 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 3.7 \\ - 2.5 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 69.2 \\ - 16.8 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 45.8 \\ - 7.2 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 487.4 \\ - 139.7 \\ \hline \end{array}$$

# TEST

# UNIT 7

What fraction of the whole is shaded?

1.



2.



3.



4.



5.



6.



Complete the fraction.

7.



8.



9.



10.



$$\frac{1}{2} = \frac{\blacksquare}{4}$$

$$\frac{1}{2} = \frac{\blacksquare}{8}$$

$$\frac{1}{3} = \frac{\blacksquare}{6}$$

$$\frac{3}{4} = \frac{\blacksquare}{8}$$

Use  $<$  or  $>$  to make a true statement.

11.

$$\frac{1}{4} \blacksquare \frac{3}{4}$$

12.

$$\frac{2}{3} \blacksquare \frac{1}{3}$$

13.

$$\frac{3}{5} \blacksquare \frac{2}{5}$$

14.

$$\frac{3}{8} \blacksquare \frac{5}{8}$$

Write the decimal for the shaded part.

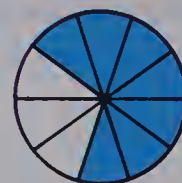
15.



16.



17.



Write as a decimal.

18.

$$\frac{7}{10}$$

19.

$$\frac{4}{10}$$

20.

$$\frac{11}{10}$$

21.

$$\frac{14}{10}$$

Complete.

22.

$$40 \text{ cm} = \blacksquare \text{ dm}$$

23.

$$7 \text{ dm} = \blacksquare \text{ cm}$$

24.

$$1 \text{ dm} = \blacksquare \text{ m}$$

Add or subtract.

25.

$$\begin{array}{r} 4.8 \\ + 2.5 \\ \hline \end{array}$$

26.

$$\begin{array}{r} 34.7 \\ + 58.8 \\ \hline \end{array}$$

27.

$$\begin{array}{r} 8.7 \\ - 2.4 \\ \hline \end{array}$$

28.

$$\begin{array}{r} 9.3 \\ - 3.6 \\ \hline \end{array}$$

29.

$$\begin{array}{r} 34.2 \\ - 17.2 \\ \hline \end{array}$$

Solve.

30.

Heather's skis measure 1.85 m. Colleen's skis measure 1.92 m. How much longer are Colleen's skis?



## DIVISION

Write two division facts for each array.

1. \* \* \* \* \*  
\* \* \* \* \*  
\* \* \* \* \*

2. \* \* \* \*  
\* \* \* \*  
\* \* \* \*  
\* \* \* \*  
\* \* \* \*

3. \* \* \* \* \* \*  
\* \* \* \* \* \*

4. \* \* \* \* \* \* \*  
\* \* \* \* \* \* \*  
\* \* \* \* \* \* \*  
\* \* \* \* \* \* \*  
\* \* \* \* \* \* \*

Draw an array to illustrate each fact.

5.  $6 \div 3$       6.  $12 \div 6$       7.  $24 \div 8$       8.  $30 \div 10$       9.  $36 \div 6$

Solve.

- |                         |                         |                          |                         |                         |
|-------------------------|-------------------------|--------------------------|-------------------------|-------------------------|
| 10. $2 \overline{)10}$  | 11. $2 \overline{)16}$  | 12. $2 \overline{)20}$   | 13. $3 \overline{)9}$   | 14. $3 \overline{)18}$  |
| 15. $5 \overline{)35}$  | 16. $4 \overline{)12}$  | 17. $4 \overline{)24}$   | 18. $4 \overline{)32}$  | 19. $5 \overline{)20}$  |
| 20. $1 \overline{)7}$   | 21. $1 \overline{)10}$  | 22. $2 \overline{)0}$    | 23. $8 \overline{)0}$   | 24. $10 \overline{)0}$  |
| 25. $2 \overline{)14}$  | 26. $4 \overline{)36}$  | 27. $5 \overline{)0}$    | 28. $3 \overline{)30}$  | 29. $5 \overline{)25}$  |
| 30. $6 \overline{)36}$  | 31. $6 \overline{)54}$  | 32. $7 \overline{)21}$   | 33. $7 \overline{)56}$  | 34. $7 \overline{)70}$  |
| 35. $8 \overline{)24}$  | 36. $8 \overline{)48}$  | 37. $8 \overline{)72}$   | 38. $9 \overline{)27}$  | 39. $9 \overline{)45}$  |
| 40. $10 \overline{)50}$ | 41. $10 \overline{)20}$ | 42. $10 \overline{)60}$  | 43. $10 \overline{)90}$ | 44. $10 \overline{)70}$ |
| 45. $9 \overline{)72}$  | 46. $7 \overline{)49}$  | 47. $10 \overline{)100}$ | 48. $8 \overline{)64}$  | 49. $5 \overline{)0}$   |

How many weeks?

50. 42 days      51. 28 days      52. 0 days      53. 63 days

# UNIT 8

## MULTIPLICATION





# Supermarket Stock

Find the total for each section.



What is the total of all the sections?



# Multiples of 10

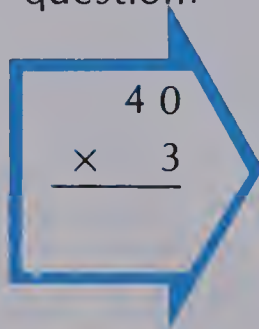
Sam went to the store and bought 3 small bags of peanuts. When he got home he counted the peanuts in one bag. There were 40 peanuts. About how many peanuts did Sam get in all 3 bags?

To solve the problem, you could add.

$$40 + 40 + 40 = 120$$

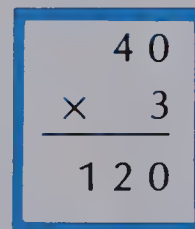
Or, you could multiply.

Write the question.


$$\begin{array}{r} 40 \\ \times 3 \\ \hline \end{array}$$

Think.

$$3 \times 4 \text{ tens} = 12 \text{ tens.}$$


$$\begin{array}{r} 40 \\ \times 3 \\ \hline 120 \end{array}$$

Sam got about 120 peanuts in the 3 bags.

## EXERCISES

Multiply.

1.  $\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$

3.  $\begin{array}{r} 20 \\ \times 2 \\ \hline \end{array}$

4.  $\begin{array}{r} 40 \\ \times 2 \\ \hline \end{array}$

5.  $\begin{array}{r} 30 \\ \times 3 \\ \hline \end{array}$

6.  $\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$

7.  $\begin{array}{r} 50 \\ \times 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 70 \\ \times 3 \\ \hline \end{array}$

9.  $\begin{array}{r} 80 \\ \times 3 \\ \hline \end{array}$

10.  $\begin{array}{r} 50 \\ \times 2 \\ \hline \end{array}$

11.  $\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$

12.  $\begin{array}{r} 60 \\ \times 7 \\ \hline \end{array}$

13.  $\begin{array}{r} 70 \\ \times 7 \\ \hline \end{array}$

14.  $\begin{array}{r} 90 \\ \times 7 \\ \hline \end{array}$

15.  $\begin{array}{r} 60 \\ \times 8 \\ \hline \end{array}$

## PRACTICE

Multiply.

$$\begin{array}{r} 1. \quad 30 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 10 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 20 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 40 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 30 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 30 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 40 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 20 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 50 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 60 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 40 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 50 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 20 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 60 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 30 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 60 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 80 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 70 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 90 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 80 \\ \times 7 \\ \hline \end{array}$$

Solve.

21. Mrs. Turner bought 3 boxes of tea. Each box contained 50 tea bags. How many tea bags were there altogether?
22. There are 6 check-out counters at Dodd's Market. Each counter is supplied with 30 copies of *Pets and People* magazine. How many copies should the manager order?
23. A small box of raisins costs 30¢. Each of the 3 Ryan children want raisins. How much money does Mrs. Ryan need for the raisins?

## Consumer Problem

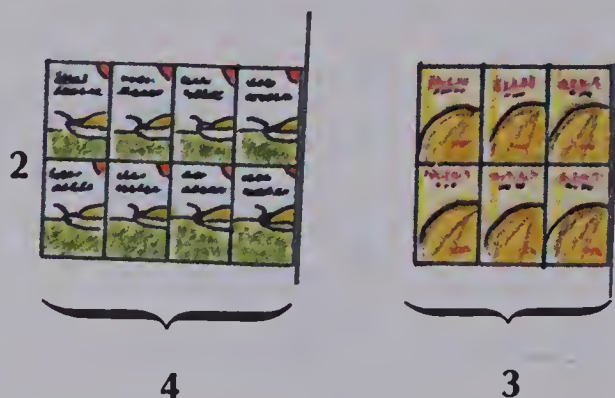
A supermarket pays a 60¢ refund for plastic milk bottles.  
How much should you get for 5 bottles?

# Multiplication and Addition

Jane was putting cereal boxes on the shelves at the supermarket.

She placed 4 boxes of Great Grain and 3 boxes of Half Bran in a layer. The manager asked for another layer.

How many boxes will there be in all?



Add and  
then multiply.

OR

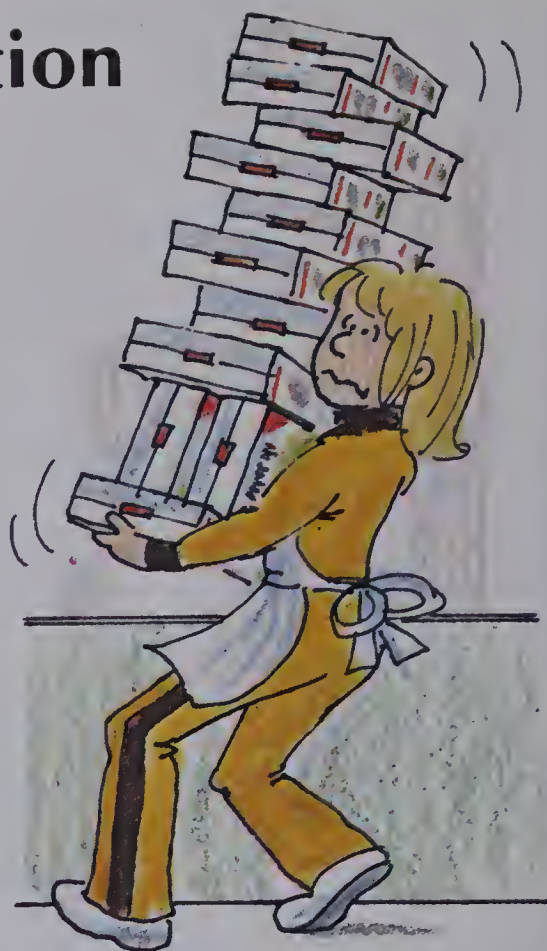
Multiply and  
then add.

$$2 \times (4 + 3) = 2 \times 7 = 14$$

$$2 \times 4 = 8$$

$$2 \times 3 = 6$$

$$14$$



## EXERCISES

Compute.

1.  $6 \times 7$

2.  $6 \times (4 + 3)$

3.  $6 \times (5 + 2)$

4.  $9 \times 8$

5.  $9 \times (4 + 4)$

6.  $9 \times (1 + 7)$

7.  $7 \times 60$

8.  $7 \times (30 + 30)$

9.  $7 \times (50 + 10)$

10.  $7 \times 10$

11.  $7 \times 6$

12.  $7 \times (10 + 6)$

13.  $7 \times 16$

14.  $9 \times 10$

15.  $9 \times 2$

16.  $9 \times (10 + 2)$

17.  $9 \times 12$



## PRACTICE

Compute.

- |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| 1. $8 \times (3 + 2)$    | 2. $7 \times (4 + 3)$    | 3. $7 \times (3 + 5)$    |
| 4. $5 \times (6 + 3)$    | 5. $7 \times (4 + 5)$    | 6. $9 \times (8 + 2)$    |
| 7. $8 \times (20 + 10)$  | 8. $7 \times (40 + 30)$  | 9. $9 \times (30 + 30)$  |
| 10. $6 \times (60 + 20)$ | 11. $7 \times (30 + 20)$ | 12. $5 \times (50 + 40)$ |
| 13. $8 \times (10 + 5)$  | 14. $9 \times (10 + 2)$  | 15. $7 \times (10 + 9)$  |
| 16. $6 \times (20 + 3)$  | 17. $8 \times (30 + 5)$  | 18. $7 \times (50 + 2)$  |
| 19. $9 \times (60 + 5)$  | 20. $8 \times (20 + 8)$  | 21. $7 \times (30 + 4)$  |

Solve.

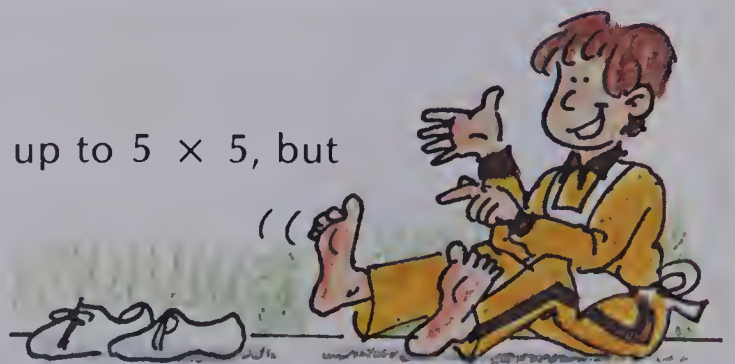
22. Maria and Joe counted the people in the library and the lunchroom. Maria counted 6 tables of 10 in the library. Joe counted 3 tables of 10 in the lunchroom. How many people were there altogether.
23. Joan and Sharon counted the teams in a double curling rink. Joan counted 5 teams of 4. Sharon counted 3 teams of 4. How many players were in both rinks?
24. In a grocery store there are 10 rows of 7 packages of Bouncy Bubble Gum at one counter. There are 20 rows of 7 packages at another counter. How many packages of the gum are there altogether?

## Multiplication Whiz

Ricky only knew his multiplication facts up to  $5 \times 5$ , but he could work out the facts to  $9 \times 9$ .

Show how he could compute  $4 \times 9$ .

Show how he could compute  $8 \times 9$ .



# Two-Place Multiplication

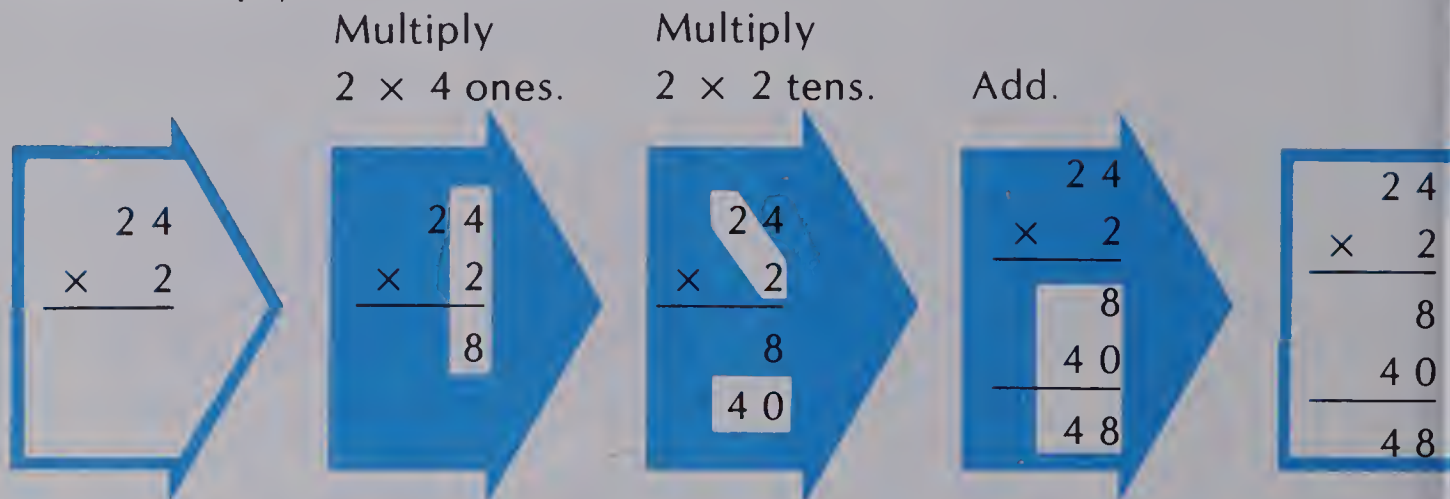
Dodd's Market sells 2 cases of peanuts every week.

There are 24 cans of peanuts in each case.

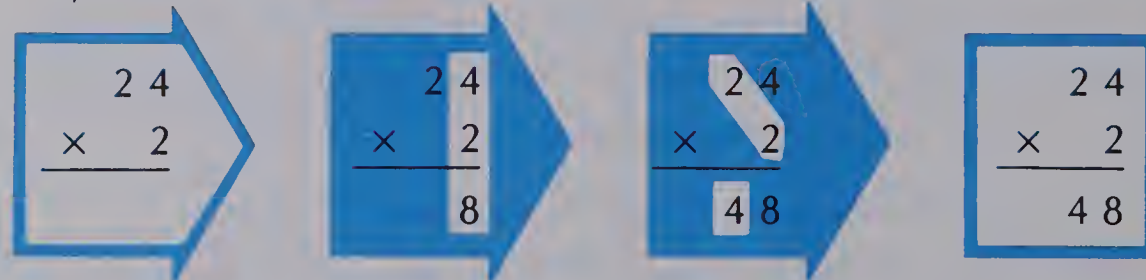
How many cans of peanuts do they sell each week?

They sell  $24 \text{ cans} + 24 \text{ cans} = 48 \text{ cans}$ .

You could multiply.



This way is shorter.



They sell 48 cans of peanuts each week.

## EXERCISES

Multiply.

1.  $\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$

3.  $\begin{array}{r} 32 \\ \times 2 \\ \hline \end{array}$

4.  $\begin{array}{r} 42 \\ \times 2 \\ \hline \end{array}$

5.  $\begin{array}{r} 32 \\ \times 3 \\ \hline \end{array}$

6.  $\begin{array}{r} 40 \\ \times 3 \\ \hline \end{array}$

7.  $\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 42 \\ \times 3 \\ \hline \end{array}$

9.  $\begin{array}{r} 52 \\ \times 3 \\ \hline \end{array}$

10.  $\begin{array}{r} 42 \\ \times 4 \\ \hline \end{array}$

11.  $\begin{array}{r} 50 \\ \times 6 \\ \hline \end{array}$

12.  $\begin{array}{r} 1 \\ \times 6 \\ \hline \end{array}$

13.  $\begin{array}{r} 51 \\ \times 6 \\ \hline \end{array}$

14.  $\begin{array}{r} 71 \\ \times 6 \\ \hline \end{array}$

15.  $\begin{array}{r} 71 \\ \times 8 \\ \hline \end{array}$

## PRACTICE

Multiply.

1.  $\begin{array}{r} 11 \\ \times 3 \\ \hline \end{array}$

2.  $\begin{array}{r} 12 \\ \times 4 \\ \hline \end{array}$

3.  $\begin{array}{r} 13 \\ \times 3 \\ \hline \end{array}$

4.  $\begin{array}{r} 14 \\ \times 2 \\ \hline \end{array}$

5.  $\begin{array}{r} 41 \\ \times 2 \\ \hline \end{array}$

6.  $\begin{array}{r} 31 \\ \times 3 \\ \hline \end{array}$

7.  $\begin{array}{r} 23 \\ \times 2 \\ \hline \end{array}$

8.  $\begin{array}{r} 21 \\ \times 4 \\ \hline \end{array}$

9.  $\begin{array}{r} 32 \\ \times 3 \\ \hline \end{array}$

10.  $\begin{array}{r} 42 \\ \times 2 \\ \hline \end{array}$

11.  $\begin{array}{r} 32 \\ \times 4 \\ \hline \end{array}$

12.  $\begin{array}{r} 43 \\ \times 3 \\ \hline \end{array}$

13.  $\begin{array}{r} 53 \\ \times 2 \\ \hline \end{array}$

14.  $\begin{array}{r} 62 \\ \times 4 \\ \hline \end{array}$

15.  $\begin{array}{r} 71 \\ \times 5 \\ \hline \end{array}$

16.  $\begin{array}{r} 64 \\ \times 2 \\ \hline \end{array}$

17.  $\begin{array}{r} 73 \\ \times 3 \\ \hline \end{array}$

18.  $\begin{array}{r} 82 \\ \times 4 \\ \hline \end{array}$

19.  $\begin{array}{r} 61 \\ \times 6 \\ \hline \end{array}$

20.  $\begin{array}{r} 94 \\ \times 2 \\ \hline \end{array}$

Solve.

21. Frances bought 3 tins of cat food. Each tin cost 32¢. How much did she pay?
22. Mr. Shreyer's classroom has 31 desks. He put 2 pens and 3 books on each desk. How many books did he put out?
23. Chris bought 4 dozen doughnuts. How many doughnuts was that?

## USING THE CALCULATOR

Use a calculator to find the products.

$6 \times 9$

$9 \times 6$

$47 \times 5$

$5 \times 47$

$8 \times 36$

$36 \times 8$

$53 \times 19$

$19 \times 53$

$27 \times 68$

$68 \times 27$

$14 \times 25 \times 61$

$25 \times 61 \times 14$



Does changing the **order** of multiplication change the product?

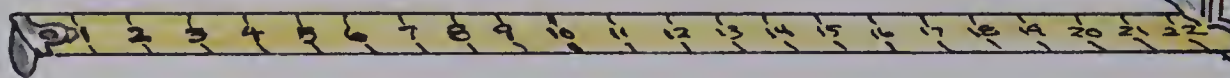


# Two-Place Multiplication

In Dodd's Market, there are 36 sets of shelves.

Each set is 4 m long.

What's the total length of shelves?



Remember that 36 is  $30 + 6$ .

Write the  
question.

Multiply

$4 \times 6$  ones.

Multiply

$4 \times 3$  tens. Add.

$$\begin{array}{r} 36 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ \times 4 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 36 \\ \times 4 \\ \hline 24 \\ 120 \end{array}$$

$$\begin{array}{r} 36 \\ \times 4 \\ \hline 24 \\ 120 \\ \hline 144 \end{array}$$

$$\begin{array}{r} 36 \\ \times 4 \\ \hline 24 \\ 120 \\ \hline 144 \end{array}$$

There are 144 m of shelf space.

## EXERCISES

Multiply.

1.  $\begin{array}{r} 20 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$

3.  $\begin{array}{r} 25 \\ \times 2 \\ \hline \end{array}$

4.  $\begin{array}{r} 45 \\ \times 2 \\ \hline \end{array}$

5.  $\begin{array}{r} 25 \\ \times 3 \\ \hline \end{array}$

6.  $\begin{array}{r} 50 \\ \times 3 \\ \hline \end{array}$

7.  $\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 54 \\ \times 3 \\ \hline \end{array}$

9.  $\begin{array}{r} 74 \\ \times 3 \\ \hline \end{array}$

10.  $\begin{array}{r} 54 \\ \times 4 \\ \hline \end{array}$

11.  $\begin{array}{r} 60 \\ \times 4 \\ \hline \end{array}$

12.  $\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$

13.  $\begin{array}{r} 67 \\ \times 4 \\ \hline \end{array}$

14.  $\begin{array}{r} 77 \\ \times 4 \\ \hline \end{array}$

15.  $\begin{array}{r} 67 \\ \times 5 \\ \hline \end{array}$

# PRACTICE

Multiply.

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. $\begin{array}{r} 35 \\ \times 2 \\ \hline \end{array}$  | 2. $\begin{array}{r} 24 \\ \times 3 \\ \hline \end{array}$  | 3. $\begin{array}{r} 14 \\ \times 4 \\ \hline \end{array}$  | 4. $\begin{array}{r} 25 \\ \times 3 \\ \hline \end{array}$  | 5. $\begin{array}{r} 17 \\ \times 4 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 43 \\ \times 4 \\ \hline \end{array}$  | 7. $\begin{array}{r} 26 \\ \times 5 \\ \hline \end{array}$  | 8. $\begin{array}{r} 18 \\ \times 6 \\ \hline \end{array}$  | 9. $\begin{array}{r} 35 \\ \times 5 \\ \hline \end{array}$  | 10. $\begin{array}{r} 37 \\ \times 4 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 56 \\ \times 4 \\ \hline \end{array}$ | 12. $\begin{array}{r} 68 \\ \times 5 \\ \hline \end{array}$ | 13. $\begin{array}{r} 49 \\ \times 6 \\ \hline \end{array}$ | 14. $\begin{array}{r} 75 \\ \times 7 \\ \hline \end{array}$ | 15. $\begin{array}{r} 66 \\ \times 7 \\ \hline \end{array}$ |
| 16. $\begin{array}{r} 68 \\ \times 7 \\ \hline \end{array}$ | 17. $\begin{array}{r} 76 \\ \times 9 \\ \hline \end{array}$ | 18. $\begin{array}{r} 87 \\ \times 6 \\ \hline \end{array}$ | 19. $\begin{array}{r} 96 \\ \times 8 \\ \hline \end{array}$ | 20. $\begin{array}{r} 79 \\ \times 9 \\ \hline \end{array}$ |

Solve.

21. Canned soup is on sale at the store. You can get 3 tins for \$1. How many tins can you get for \$15?

# REVIEW

Multiply.

- |     |   |   |   |   |   |
|-----|---|---|---|---|---|
| A38 | 1. $\begin{array}{r} 30 \\ \times 3 \\ \hline \end{array}$  | 2. $\begin{array}{r} 40 \\ \times 2 \\ \hline \end{array}$  | 3. $\begin{array}{r} 80 \\ \times 5 \\ \hline \end{array}$  | 4. $\begin{array}{r} 60 \\ \times 8 \\ \hline \end{array}$  | 5. $\begin{array}{r} 70 \\ \times 9 \\ \hline \end{array}$  |
| A39 | 6. $6 \times (5 + 3)$                                       | 7. $7 \times (7 + 2)$                                       |   |   |   |
|     | 8. $8 \times (2 + 4)$                                       | 9. $7 \times (30 + 40)$                                     |   |   |   |
| A40 | 10. $\begin{array}{r} 44 \\ \times 2 \\ \hline \end{array}$ | 11. $\begin{array}{r} 32 \\ \times 3 \\ \hline \end{array}$ | 12. $\begin{array}{r} 61 \\ \times 8 \\ \hline \end{array}$ | 13. $\begin{array}{r} 73 \\ \times 3 \\ \hline \end{array}$ | 14. $\begin{array}{r} 94 \\ \times 2 \\ \hline \end{array}$ |
| A41 | 15. $\begin{array}{r} 37 \\ \times 2 \\ \hline \end{array}$ | 16. $\begin{array}{r} 19 \\ \times 6 \\ \hline \end{array}$ | 17. $\begin{array}{r} 58 \\ \times 5 \\ \hline \end{array}$ | 18. $\begin{array}{r} 77 \\ \times 7 \\ \hline \end{array}$ | 19. $\begin{array}{r} 86 \\ \times 9 \\ \hline \end{array}$ |

# Multiples of 100

Dodd's Market serves about 800 customers every day.

They are open 6 days a week.

About how many customers do they serve in a week?



Write the question.

$$\begin{array}{r} 800 \\ \times 6 \\ \hline \end{array}$$

Multiply  
 $6 \times 0$  ones.

$$\begin{array}{r} 800 \\ \times 6 \\ \hline 0 \end{array}$$

Multiply  
 $6 \times 0$  tens.

$$\begin{array}{r} 800 \\ \times 6 \\ \hline 00 \end{array}$$

Multiply  
 $6 \times 8$  hundreds.

$$\begin{array}{r} 800 \\ \times 6 \\ \hline 4800 \end{array}$$

$$\begin{array}{r} 800 \\ \times 6 \\ \hline 4800 \end{array}$$

They serve about 4800 customers in a week.

## EXERCISES

Multiply.

1.  $\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 40 \\ \times 2 \\ \hline \end{array}$

3.  $\begin{array}{r} 400 \\ \times 2 \\ \hline \end{array}$

4.  $\begin{array}{r} 300 \\ \times 2 \\ \hline \end{array}$

5.  $\begin{array}{r} 300 \\ \times 3 \\ \hline \end{array}$

6.  $\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$

7.  $\begin{array}{r} 60 \\ \times 7 \\ \hline \end{array}$

8.  $\begin{array}{r} 600 \\ \times 7 \\ \hline \end{array}$

9.  $\begin{array}{r} 800 \\ \times 7 \\ \hline \end{array}$

10.  $\begin{array}{r} 800 \\ \times 8 \\ \hline \end{array}$

Round to the nearest ten.

11. 38

12. 52

13. 77

14. 83

15. 95

Round to the nearest hundred.

16. 235

17. 468

18. 739

19. 647

20. 550



## PRACTICE

Multiply.

$$\begin{array}{r} 1. \quad 400 \\ \times \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 200 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 300 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 100 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 200 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 400 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 500 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 300 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 200 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 600 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 600 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 700 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 800 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 500 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 900 \\ \times \quad 6 \\ \hline \end{array}$$

Round the first number. Estimate the answer.

$$\begin{array}{r} 16. \quad 32 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 18 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 57 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 83 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 55 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 138 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 458 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 779 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 542 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad 250 \\ \times \quad 7 \\ \hline \end{array}$$

Solve.

26. The Jackes family spends about \$400 a month for food. About how much do they spend for food in 6 months?
27. Sam ran 5 times around a 400 m track. How far did he run altogether?
28. Dodd's Market sold 93 mops at \$6 each. How much were the total sales? Make an estimate, then compute the answer.

## Quick Stop?

If a car is travelling 100 kilometres per hour, it goes about 28 m in a second. How far will it go in 5 seconds?

# Three-Place Multiplication

Friday and Saturday are busy days at the snack bar in Dodd's Market. They sell about 235 hot dogs each day. How many hot dogs do they sell altogether?



Write the question.

$$\begin{array}{r} 235 \\ \times 2 \\ \hline \end{array}$$

Multiply  
 $2 \times 5$  ones.

$$\begin{array}{r} 235 \\ \times 2 \\ \hline 10 \end{array}$$

Multiply  
 $2 \times 3$  tens.

$$\begin{array}{r} 235 \\ \times 2 \\ \hline 10 \\ 60 \end{array}$$

Multiply  
 $2 \times 2$  hundreds.

$$\begin{array}{r} 235 \\ \times 2 \\ \hline 10 \\ 60 \\ 400 \end{array}$$

Add.

$$\begin{array}{r} 235 \\ \times 2 \\ \hline 10 \\ 60 \\ 400 \\ \hline 470 \end{array}$$

They sell 470 hot dogs in the 2 days.

## EXERCISES

Multiply.

1.  $\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$

3.  $\begin{array}{r} 400 \\ \times 2 \\ \hline \end{array}$

4.  $\begin{array}{r} 436 \\ \times 2 \\ \hline \end{array}$

5.  $\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$

6.  $\begin{array}{r} 10 \\ \times 3 \\ \hline \end{array}$

7.  $\begin{array}{r} 300 \\ \times 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 314 \\ \times 3 \\ \hline \end{array}$

9.  $\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$

10.  $\begin{array}{r} 20 \\ \times 4 \\ \hline \end{array}$

11.  $\begin{array}{r} 400 \\ \times 4 \\ \hline \end{array}$

12.  $\begin{array}{r} 426 \\ \times 4 \\ \hline \end{array}$

13.  $\begin{array}{r} 345 \\ \times 2 \\ \hline \end{array}$

14.  $\begin{array}{r} 227 \\ \times 3 \\ \hline \end{array}$

15.  $\begin{array}{r} 516 \\ \times 4 \\ \hline \end{array}$

16.  $\begin{array}{r} 728 \\ \times 3 \\ \hline \end{array}$

# PRACTICE

Multiply.

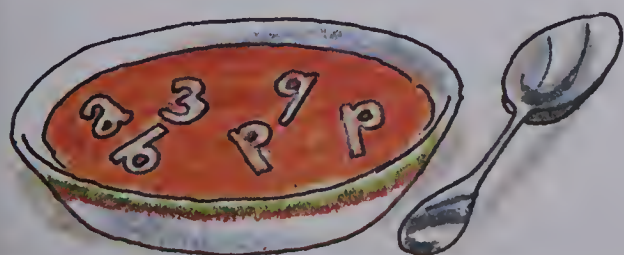
- |  |  |  |  |  |
|--|--|--|--|--|
| 1. $\begin{array}{r} 213 \\ \times 3 \\ \hline \end{array}$  | 2. $\begin{array}{r} 432 \\ \times 2 \\ \hline \end{array}$  | 3. $\begin{array}{r} 120 \\ \times 4 \\ \hline \end{array}$  | 4. $\begin{array}{r} 321 \\ \times 3 \\ \hline \end{array}$  | 5. $\begin{array}{r} 302 \\ \times 2 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 421 \\ \times 3 \\ \hline \end{array}$  | 7. $\begin{array}{r} 532 \\ \times 2 \\ \hline \end{array}$  | 8. $\begin{array}{r} 603 \\ \times 2 \\ \hline \end{array}$  | 9. $\begin{array}{r} 312 \\ \times 4 \\ \hline \end{array}$  | 10. $\begin{array}{r} 510 \\ \times 5 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 325 \\ \times 3 \\ \hline \end{array}$ | 12. $\begin{array}{r} 216 \\ \times 4 \\ \hline \end{array}$ | 13. $\begin{array}{r} 304 \\ \times 3 \\ \hline \end{array}$ | 14. $\begin{array}{r} 416 \\ \times 2 \\ \hline \end{array}$ | 15. $\begin{array}{r} 127 \\ \times 3 \\ \hline \end{array}$ |
| 16. $\begin{array}{r} 628 \\ \times 3 \\ \hline \end{array}$ | 17. $\begin{array}{r} 517 \\ \times 4 \\ \hline \end{array}$ | 18. $\begin{array}{r} 706 \\ \times 6 \\ \hline \end{array}$ | 19. $\begin{array}{r} 829 \\ \times 3 \\ \hline \end{array}$ | 20. $\begin{array}{r} 928 \\ \times 2 \\ \hline \end{array}$ |

Solve.

21. A roll of tape is 329 cm long.  
How much tape is there in 3 rolls?
22. A soft drink bottling machine can fill  
145 large bottles each minute. How many  
bottles are filled in 2 minutes?
23. A round trip to the Carter's cottage is 216 km. How  
far do the Carter's travel if they make the trip 4 times?

## Alphabet Soup

Here are 2 multiplication puzzles.  
Each letter stands for a digit.  
Find the missing digits.



$$\begin{array}{r} a\ b\ 3 \\ \times \quad 4 \\ \hline 1\ 2 \\ 8\ 0 \\ c\ 6\ 0\ 0 \\ \hline c\ 6\ 9\ 2 \end{array}$$

$$\begin{array}{r} p\ q\ p \\ \times \quad 3 \\ \hline 1\ p \\ 6\ 0 \\ 1\ p\ 0\ 0 \\ \hline 1\ p\ 7\ p \end{array}$$



# Three-Place Multiplication

Jason bought 3 cans of Meaty-O's for camping. Each can contains 284 g. How many grams of Meaty-O's did Jason get?

Write the question.

$$\begin{array}{r} 284 \\ \times 3 \\ \hline \end{array}$$

Multiply  
 $3 \times 4$  ones.

$$\begin{array}{r} 284 \\ \times 3 \\ \hline 12 \end{array}$$

Multiply  
 $3 \times 8$  tens.

$$\begin{array}{r} 284 \\ \times 3 \\ \hline 12 \\ 240 \end{array}$$

Multiply  
 $3 \times 2$  hundreds. Add.

$$\begin{array}{r} 284 \\ \times 3 \\ \hline 12 \\ 240 \\ 600 \end{array}$$

$$\begin{array}{r} 284 \\ \times 3 \\ \hline 12 \\ 240 \\ 600 \\ \hline 852 \end{array}$$

Jason got 852 g of Meaty-O's.

## EXERCISES

Multiply.

1.  $\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$

2.  $\begin{array}{r} 20 \\ \times 3 \\ \hline \end{array}$

3.  $\begin{array}{r} 500 \\ \times 3 \\ \hline \end{array}$

4.  $\begin{array}{r} 526 \\ \times 3 \\ \hline \end{array}$

5.  $\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$

6.  $\begin{array}{r} 60 \\ \times 2 \\ \hline \end{array}$

7.  $\begin{array}{r} 400 \\ \times 2 \\ \hline \end{array}$

8.  $\begin{array}{r} 465 \\ \times 2 \\ \hline \end{array}$

9.  $\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$

10.  $\begin{array}{r} 80 \\ \times 5 \\ \hline \end{array}$

11.  $\begin{array}{r} 100 \\ \times 5 \\ \hline \end{array}$

12.  $\begin{array}{r} 187 \\ \times 5 \\ \hline \end{array}$

13.  $\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$

14.  $\begin{array}{r} 40 \\ \times 6 \\ \hline \end{array}$

15.  $\begin{array}{r} 600 \\ \times 6 \\ \hline \end{array}$

16.  $\begin{array}{r} 643 \\ \times 6 \\ \hline \end{array}$

Multiply.

## PRACTICE

- |  |  |  |  |  |
|--|--|--|--|--|
| 1. $\begin{array}{r} 421 \\ \times 3 \\ \hline \end{array}$  | 2. $\begin{array}{r} 332 \\ \times 2 \\ \hline \end{array}$  | 3. $\begin{array}{r} 501 \\ \times 4 \\ \hline \end{array}$  | 4. $\begin{array}{r} 720 \\ \times 3 \\ \hline \end{array}$  | 5. $\begin{array}{r} 403 \\ \times 2 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 445 \\ \times 2 \\ \hline \end{array}$  | 7. $\begin{array}{r} 328 \\ \times 3 \\ \hline \end{array}$  | 8. $\begin{array}{r} 617 \\ \times 4 \\ \hline \end{array}$  | 9. $\begin{array}{r} 726 \\ \times 3 \\ \hline \end{array}$  | 10. $\begin{array}{r} 919 \\ \times 5 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 354 \\ \times 2 \\ \hline \end{array}$ | 12. $\begin{array}{r} 267 \\ \times 3 \\ \hline \end{array}$ | 13. $\begin{array}{r} 186 \\ \times 4 \\ \hline \end{array}$ | 14. $\begin{array}{r} 259 \\ \times 3 \\ \hline \end{array}$ | 15. $\begin{array}{r} 278 \\ \times 2 \\ \hline \end{array}$ |
| 16. $\begin{array}{r} 768 \\ \times 6 \\ \hline \end{array}$ | 17. $\begin{array}{r} 498 \\ \times 7 \\ \hline \end{array}$ | 18. $\begin{array}{r} 963 \\ \times 9 \\ \hline \end{array}$ | 19. $\begin{array}{r} 754 \\ \times 8 \\ \hline \end{array}$ | 20. $\begin{array}{r} 985 \\ \times 7 \\ \hline \end{array}$ |

Solve.

21. Dodd's Market sells about 245 copies of *Today* magazine every week. How many copies do they sell in 6 weeks?
22. Agnes bought 6 bottles of shampoo on sale. Each bottle contains 350 mL. How many millilitres of shampoo did she buy in all?
23. The corner milk store was open 363 days last year. Mr. Shu worked a 5 hour shift each of those days before going on holiday. How many hours did he work?

## Pay Roll

A baker had 6 people working for him.  
Each person makes \$64 a day.  
How much money will the baker have to pay for their salaries in a week (5 days)?

# Multiplying Three Factors

André was stacking butter at the supermarket.  
He made 8 rows with 6 packages each.  
Then he made 7 layers like that.  
How many packages of butter did he stack?

$$8 \times 6 \times 7 = \blacksquare$$

You can solve this two ways.

$$(8 \times 6) \times 7 = 48 \times 7$$

$$\begin{array}{r} 48 \\ \times 7 \\ \hline 336 \end{array}$$

or  $8 \times (6 \times 7) = 8 \times 42$

$$\begin{array}{r} 42 \\ \times 8 \\ \hline 336 \end{array}$$

André stacked 336 packages of butter.



## EXERCISES

Multiply.

1.  $2 \times 3$     2.  $6 \times 4$     3.  $3 \times 4$     4.  $2 \times 12$     5.  $2 \times 3 \times 4$

6.  $4 \times 5$     7.  $20 \times 3$     8.  $5 \times 3$     9.  $4 \times 15$     10.  $4 \times 5 \times 3$

11.  $7 \times 3$     12.  $21 \times 5$     13.  $3 \times 5$     14.  $7 \times 15$     15.  $7 \times 3 \times 5$

16.  $2 \times 6$     17.  $12 \times 8$     18.  $6 \times 8$     19.  $2 \times 48$     20.  $2 \times 6 \times 8$



## PRACTICE

Multiply.

- |                            |                            |                           |
|----------------------------|----------------------------|---------------------------|
| 1. $2 \times 1 \times 2$   | 2. $2 \times 2 \times 2$   | 3. $2 \times 1 \times 3$  |
| 4. $3 \times 2 \times 3$   | 5. $3 \times 2 \times 4$   | 6. $4 \times 3 \times 4$  |
| 7. $4 \times 2 \times 0$   | 8. $4 \times 3 \times 1$   | 9. $4 \times 4 \times 2$  |
| 10. $5 \times 2 \times 3$  | 11. $5 \times 4 \times 4$  | 12. $4 \times 5 \times 6$ |
| 13. $2 \times 3 \times 12$ | 14. $5 \times 2 \times 20$ | 15. $7 \times 8 \times 9$ |

Solve.

16. There are 4 packets of instant soup in a box, and 24 boxes in a carton. How many packets of soup are in 5 cartons?
17. A case of litre bottles of cola contains 4 rows of 3 bottles. How many bottles are there in 6 cases?

## Paper Folding

Marion bought a long length of paper.  
How many times must she fold the paper  
in half to get more than 1000 sections?



1 fold  
2 sections



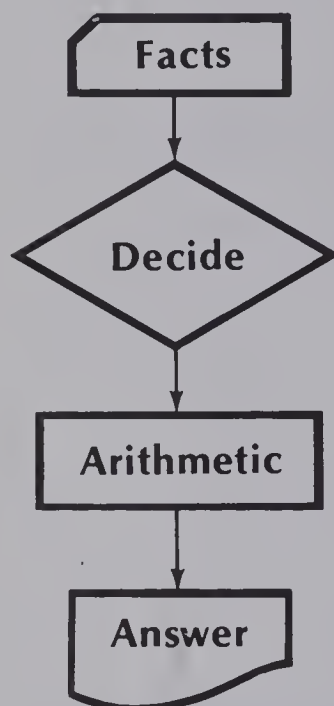
2 folds  
4 sections



3 folds  
8 sections

# Multiplication and Division

Marnie is setting up a display at the supermarket.  
The first layer of the display is cans of soup.  
Marnie is making it 4 cans deep by 16 cans long.  
How many cans of soup does she need?



4 cans deep  
16 cans long

To find **how many**,  
we can **multiply**.

$$\begin{array}{r} 16 \\ \times 4 \\ \hline 64 \end{array}$$

She needs 64 cans.



## EXERCISES

Would you be more likely to **multiply** or **divide**?

1. How many are there altogether?
2. How many rows are there?
3. How much does each one cost?
4. How many are there in all?

Solve.

5. Each carton of potato chips has 24 bags.  
How many bags are there in 8 cartons?
6. Sumi bought 5 apples.  
She paid the clerk 50¢ for them.  
How much did each apple cost?

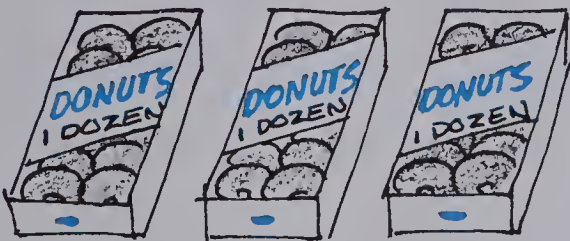
## PRACTICE

Solve.

1. Crazy Cat cat food comes in cases which contain 48 tins each. How many tins are there in 8 cases?
2. Boxes of laundry soap are displayed on the supermarket shelves in rows that are 4 boxes deep. Mr. Brent wants to display 28 boxes. How long will each row be?
3. Dodd's Market put cashews on sale for \$3 a can. They sold 245 cans on the first day. How much money did they receive for the cashews?
4. The Market sells bunches of fresh flowers. Each bunch costs \$3. They sold \$27 worth of flowers on Thursday. How many bunches did they sell?

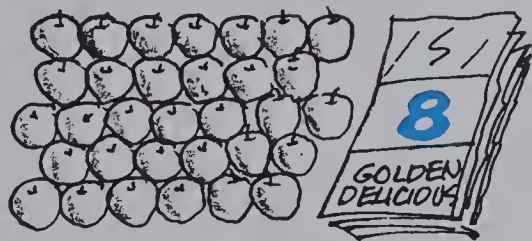
Use the facts in the pictures to solve the problems.

5.



How many donuts are there?

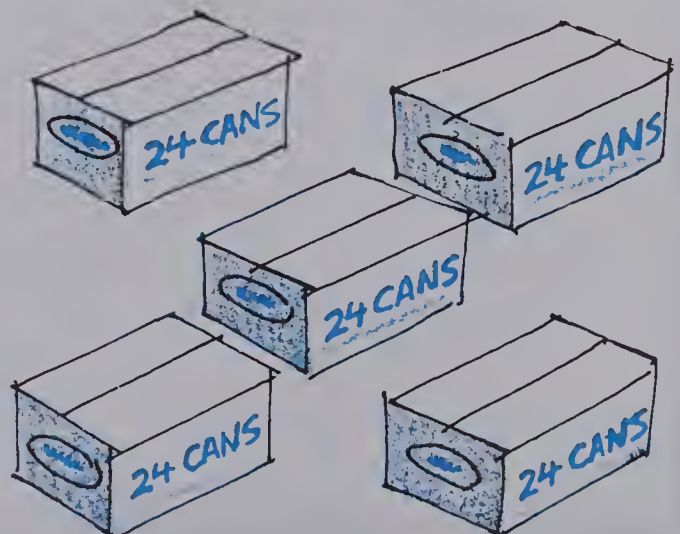
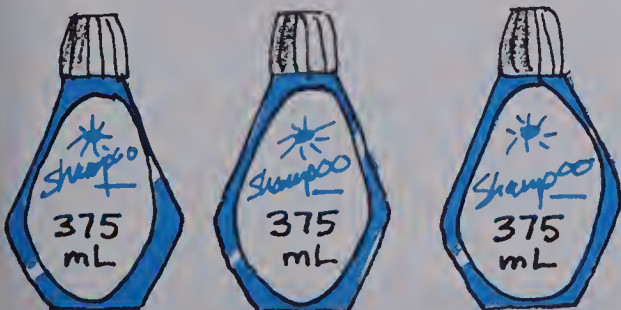
6.



How many bags are needed to pack the apples?

## Imagine

Make up a story problem for each picture.  
Solve it.





# Estimation with Measurement

Sara knows that her father is 2 m tall.  
He stood next to a tree in their yard.  
Sara could see that the tree was  
about twice as tall as her father.  
Could she estimate the height of the tree?

To estimate a measurement:

1. Decide what **unit** is suitable.

centimetre   metre   kilometre   millimetre

2. Pick a **base** you know well.

the width of your finger  
your father's height  
a metre stick



$$2 \times 2 \text{ m} = 4 \text{ m}$$

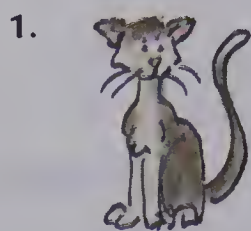
3. **Compare** the base with the object to be measured.

How many times bigger is the object?

4. **Estimate** the measure of the object.

## EXERCISES

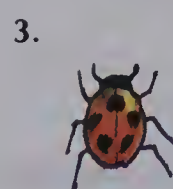
Which answer is most appropriate?



30 m  
30 cm  
30 mm

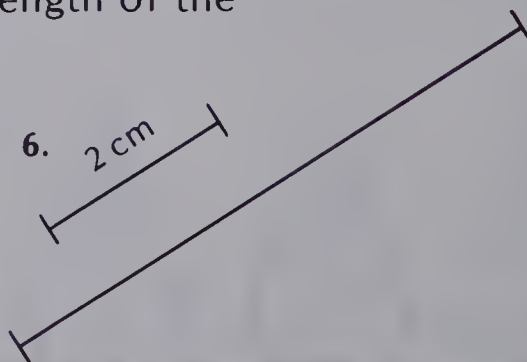
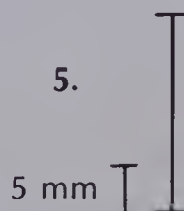
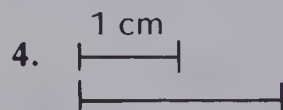


1 m  
1 cm  
1 mm



8 m  
8 cm  
8 mm

Compare each pair of lines. Estimate the length of the second line.



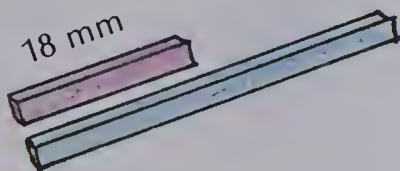
# PRACTICE

Compare each pair of figures. Estimate the length of the second figure.

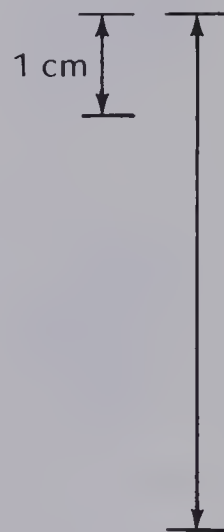
1. 1 cm



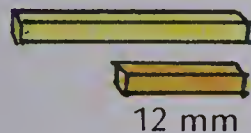
2. 18 mm



3.

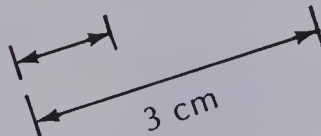


4.



12 mm

5.



Round each measure to the nearest ten. Use the rounded numbers to estimate the answer. Compute the answer.

6.  $18 \text{ mm} + 42 \text{ mm}$

7.  $51 \text{ m} - 37 \text{ m}$

8.  $68 \text{ cm} \times 2$

9.  $62 \text{ km} \times 5$

# REVIEW

Multiply.

A42

1.  $\begin{array}{r} 400 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 300 \\ \times 3 \\ \hline \end{array}$

3.  $\begin{array}{r} 600 \\ \times 5 \\ \hline \end{array}$

4.  $\begin{array}{r} 800 \\ \times 6 \\ \hline \end{array}$

5.  $\begin{array}{r} 700 \\ \times 7 \\ \hline \end{array}$

A43

6.  $\begin{array}{r} 324 \\ \times 2 \\ \hline \end{array}$

7.  $\begin{array}{r} 732 \\ \times 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 427 \\ \times 3 \\ \hline \end{array}$

9.  $\begin{array}{r} 718 \\ \times 4 \\ \hline \end{array}$

10.  $\begin{array}{r} 804 \\ \times 6 \\ \hline \end{array}$

A44

11.  $\begin{array}{r} 456 \\ \times 4 \\ \hline \end{array}$

12.  $\begin{array}{r} 678 \\ \times 5 \\ \hline \end{array}$

13.  $\begin{array}{r} 765 \\ \times 7 \\ \hline \end{array}$

14.  $\begin{array}{r} 846 \\ \times 6 \\ \hline \end{array}$

15.  $\begin{array}{r} 908 \\ \times 9 \\ \hline \end{array}$

A45

16.  $3 \times 2 \times 4$

17.  $4 \times 3 \times 5$

18.  $5 \times 6 \times 7$

# TEST

# UNIT 8

Compute.

1. 
$$\begin{array}{r} 20 \\ \times 3 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 70 \\ \times 6 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 50 \\ \times 7 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 90 \\ \times 8 \\ \hline \end{array}$$

6.  $5 \times (3 + 2)$

7.  $6 \times (3 + 4)$

8.  $7 \times (5 + 4)$

9.  $8 \times (50 + 30)$

10. 
$$\begin{array}{r} 34 \\ \times 2 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 23 \\ \times 3 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 52 \\ \times 4 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 71 \\ \times 6 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 82 \\ \times 3 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 46 \\ \times 3 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 18 \\ \times 5 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 57 \\ \times 6 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 78 \\ \times 7 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 94 \\ \times 8 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 300 \\ \times 2 \\ \hline \end{array}$$

21. 
$$\begin{array}{r} 100 \\ \times 4 \\ \hline \end{array}$$

22. 
$$\begin{array}{r} 500 \\ \times 6 \\ \hline \end{array}$$

23. 
$$\begin{array}{r} 900 \\ \times 5 \\ \hline \end{array}$$

24. 
$$\begin{array}{r} 800 \\ \times 6 \\ \hline \end{array}$$

25. 
$$\begin{array}{r} 31 \\ \times 8 \\ \hline \end{array}$$

26. 
$$\begin{array}{r} 49 \\ \times 9 \\ \hline \end{array}$$

27. 
$$\begin{array}{r} 65 \\ \times 6 \\ \hline \end{array}$$

28. 
$$\begin{array}{r} 324 \\ \times 8 \\ \hline \end{array}$$

29. 
$$\begin{array}{r} 678 \\ \times 7 \\ \hline \end{array}$$

30. 
$$\begin{array}{r} 123 \\ \times 3 \\ \hline \end{array}$$

31. 
$$\begin{array}{r} 402 \\ \times 4 \\ \hline \end{array}$$

32. 
$$\begin{array}{r} 516 \\ \times 5 \\ \hline \end{array}$$

33. 
$$\begin{array}{r} 837 \\ \times 2 \\ \hline \end{array}$$

34. 
$$\begin{array}{r} 916 \\ \times 6 \\ \hline \end{array}$$

35. 
$$\begin{array}{r} 257 \\ \times 3 \\ \hline \end{array}$$

36. 
$$\begin{array}{r} 438 \\ \times 4 \\ \hline \end{array}$$

37. 
$$\begin{array}{r} 695 \\ \times 5 \\ \hline \end{array}$$

38. 
$$\begin{array}{r} 740 \\ \times 9 \\ \hline \end{array}$$

39. 
$$\begin{array}{r} 868 \\ \times 8 \\ \hline \end{array}$$

40.  $3 \times 2 \times 2$     41.  $2 \times 4 \times 5$     42.  $3 \times 4 \times 3$     43.  $5 \times 7 \times 8$

44. Corn was selling for 9¢ an ear.

Everyone in Jill's family likes 2 ears.

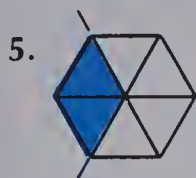
How much will it cost for corn for her family of 6?



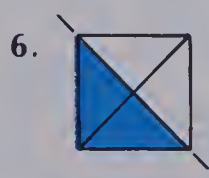
What fraction of the whole is shaded?



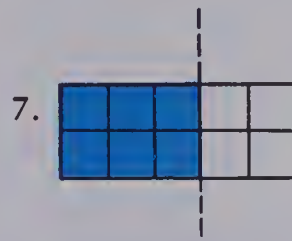
Write the equivalent fraction.



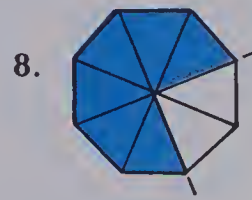
$$\frac{1}{3} = \frac{\blacksquare}{6}$$



$$\frac{1}{2} = \frac{\blacksquare}{4}$$



$$\frac{3}{5} = \frac{\blacksquare}{10}$$



$$\frac{3}{4} = \frac{\blacksquare}{8}$$

Copy each pair of numbers. Use  $<$ ,  $=$ , or  $>$  to make a true statement.

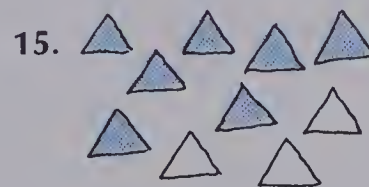
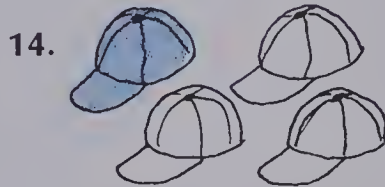
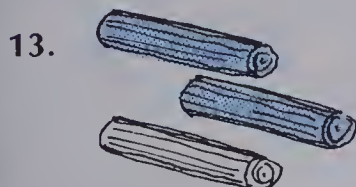
9.  $\frac{4}{6} \blacksquare \frac{5}{6}$

10.  $\frac{4}{10} \blacksquare \frac{2}{10}$

11.  $\frac{3}{3} \blacksquare \frac{1}{3}$

12.  $\frac{2}{5} \blacksquare \frac{5}{5}$

What fraction of the set is shaded?



Write as a decimal.

16.  $\frac{5}{10}$

17.  $\frac{1}{10}$

18.  $\frac{10}{10}$

19.  $\frac{17}{10}$

20.  $\frac{13}{10}$

Copy and complete.

21.  $90 \text{ cm} = \blacksquare \text{ dm}$

22.  $0.6 \text{ m} = \blacksquare \text{ dm}$

23.  $2 \text{ dm} = \blacksquare \text{ cm}$

Add or subtract.

24. 
$$\begin{array}{r} 45.3 \\ + 18.5 \\ \hline \end{array}$$

25. 
$$\begin{array}{r} 290.6 \\ + 57.8 \\ \hline \end{array}$$

26. 
$$\begin{array}{r} 64.3 \\ - 9.7 \\ \hline \end{array}$$

27. 
$$\begin{array}{r} 92.0 \\ - 35.1 \\ \hline \end{array}$$

28. 
$$\begin{array}{r} 481.4 \\ - 92.7 \\ \hline \end{array}$$

# UNIT 9

## DIVISION





# Subtraction

Do this subtraction quiz.

Can you discover a secret way to check the answers for each row?





# Division

Mel made 15 cakes at Landy's Bakery on Monday afternoon. He can make 5 cakes in an hour. How many hours did it take him to make 15 cakes?

$$15 \div 5 = \blacksquare \quad \text{or} \quad 5 \overline{)15}$$

There is a way to work out your answer.

$$\begin{array}{r} 3 \\ 5 \overline{)15} \\ -15 \\ \hline 0 \end{array}$$

Estimate how many fives are in 15.

Multiply  $3 \times 5$ .

Subtract  $15 - 15$ .

It took Mel 3 hours to make 15 cakes.

3 is the **quotient**.



## EXERCISES

Copy and complete each division.

1. 
$$\begin{array}{r} \blacksquare \\ 2 \overline{)12} \\ -12 \\ \hline 0 \end{array}$$

2. 
$$\begin{array}{r} \blacksquare \\ 3 \overline{)18} \\ -18 \\ \hline 0 \end{array}$$

3. 
$$\begin{array}{r} \blacksquare \\ 4 \overline{)20} \\ -20 \\ \hline 0 \end{array}$$

4. 
$$\begin{array}{r} \blacksquare \\ 5 \overline{)30} \\ -30 \\ \hline 0 \end{array}$$

5. 
$$\begin{array}{r} \blacksquare \\ 6 \overline{)42} \\ -42 \\ \hline 0 \end{array}$$

6. 
$$\begin{array}{r} 8 \\ 2 \overline{)16} \\ -\blacksquare \\ \hline \blacksquare \end{array}$$

7. 
$$\begin{array}{r} 8 \\ 3 \overline{)24} \\ -\blacksquare \\ \hline \blacksquare \end{array}$$

8. 
$$\begin{array}{r} 8 \\ 4 \overline{)32} \\ -\blacksquare \\ \hline \blacksquare \end{array}$$

9. 
$$\begin{array}{r} 4 \\ 7 \overline{)28} \\ -\blacksquare \\ \hline \blacksquare \end{array}$$

10. 
$$\begin{array}{r} 7 \\ 8 \overline{)56} \\ -\blacksquare \\ \hline \blacksquare \end{array}$$

11. 
$$\begin{array}{r} 5 \\ 2 \overline{)10} \end{array}$$

12. 
$$\begin{array}{r} 9 \\ 3 \overline{)27} \end{array}$$

13. 
$$\begin{array}{r} 7 \\ 5 \overline{)35} \end{array}$$

14. 
$$\begin{array}{r} 6 \\ 6 \overline{)36} \end{array}$$

15. 
$$\begin{array}{r} 5 \\ 9 \overline{)45} \end{array}$$

16. 
$$2 \overline{)14}$$

17. 
$$4 \overline{)24}$$

18. 
$$5 \overline{)25}$$

19. 
$$6 \overline{)54}$$

20. 
$$8 \overline{)72}$$

## PRACTICE

Divide.

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. $5\overline{)5}$   | 2. $2\overline{)8}$   | 3. $3\overline{)9}$   | 4. $1\overline{)6}$   | 5. $4\overline{)8}$   |
| 6. $2\overline{)12}$  | 7. $3\overline{)21}$  | 8. $4\overline{)32}$  | 9. $5\overline{)45}$  | 10. $6\overline{)54}$ |
| 11. $7\overline{)56}$ | 12. $4\overline{)36}$ | 13. $8\overline{)64}$ | 14. $5\overline{)40}$ | 15. $9\overline{)72}$ |
| 16. $2\overline{)6}$  | 17. $5\overline{)0}$  | 18. $6\overline{)6}$  | 19. $4\overline{)20}$ | 20. $5\overline{)35}$ |
| 21. $6\overline{)60}$ | 22. $7\overline{)63}$ | 23. $8\overline{)56}$ | 24. $9\overline{)81}$ | 25. $6\overline{)42}$ |
| 26. $4\overline{)28}$ | 27. $7\overline{)42}$ | 28. $5\overline{)30}$ | 29. $9\overline{)63}$ | 30. $8\overline{)72}$ |

Solve.

31. Sonia works 3 hours in the bakery in the evening. Last week she worked 18 hours. How many evenings did she work?
32. A bakery packs bran muffins 8 to a package. Ted wants 32 muffins. How many packages should he buy?
33. Butter tarts are packed in trays of 6. There are 48 tarts. How many trays can be filled?

## USING THE CALCULATOR

Which of the numbers below are exactly divisible by 9?  
Use a calculator to find out. Then find the sum of the digits of each of the numbers.

45

32

18

64

72

54

56

63

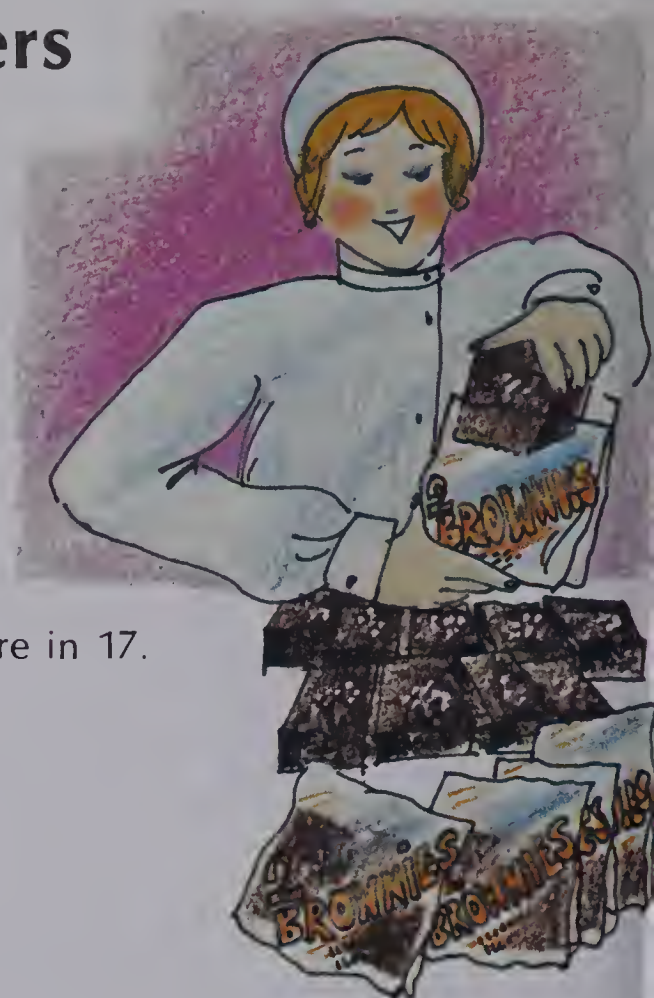
15

Find more numbers divisible by 9.

Can you state a rule for all numbers divisible by 9?

# Division with Remainders

Mary is making snack packs at the bakery.  
She puts 2 brownies in each snack pack.  
There are 17 brownies.  
How many snack packs can she make?



$$17 \div 2 = \blacksquare \quad \text{or} \quad 2 \overline{)17}^{\blacksquare}$$

Write each step.

$$\begin{array}{r} 8 \\ 2 \overline{)17} \\ \underline{-16} \end{array}$$

← Estimate how many twos are in 17.  
← Multiply  $8 \times 2$ .  
← Subtract  $17 - 16$ .

Mary can make 8 snack packs.

There will be 1 left over.

1 is the **remainder**.

8 is the **quotient**.

Write R1 beside the quotient.  $8R1$

## EXERCISES

Copy and complete each division.

$$\begin{array}{r} \blacksquare \\ 1. \quad 2 \overline{)10} \\ \underline{-10} \\ 0 \end{array}$$

$$\begin{array}{r} \blacksquare R \blacksquare \\ 2. \quad 2 \overline{)11} \\ \underline{-10} \\ 1 \end{array}$$

$$\begin{array}{r} \blacksquare \\ 3. \quad 2 \overline{)12} \\ \underline{-12} \\ 0 \end{array}$$

$$\begin{array}{r} \blacksquare \\ 4. \quad 3 \overline{)15} \\ \underline{-15} \\ 0 \end{array}$$

$$\begin{array}{r} \blacksquare R \blacksquare \\ 5. \quad 3 \overline{)16} \\ \underline{-15} \\ 1 \end{array}$$

$$\begin{array}{r} \blacksquare R \blacksquare \\ 6. \quad 3 \overline{)17} \\ \underline{-15} \\ \blacksquare \end{array}$$

$$\begin{array}{r} \blacksquare \\ 7. \quad 3 \overline{)18} \\ \underline{-18} \\ \blacksquare \end{array}$$

$$\begin{array}{r} \blacksquare \\ 8. \quad 5 \overline{)25} \\ \underline{-25} \\ \blacksquare \end{array}$$

$$\begin{array}{r} \blacksquare R \blacksquare \\ 9. \quad 5 \overline{)26} \\ \underline{-25} \\ \blacksquare \end{array}$$

$$\begin{array}{r} \blacksquare R \blacksquare \\ 10. \quad 5 \overline{)28} \\ \underline{-25} \\ \blacksquare \end{array}$$

$$11. \quad 5 \overline{)30}$$

$$12. \quad 4 \overline{)17}$$

$$13. \quad 4 \overline{)22}$$

$$14. \quad 6 \overline{)37}$$

$$15. \quad 6 \overline{)39}$$

$$16. \quad 4 \overline{)29}$$

$$17. \quad 5 \overline{)31}$$

$$18. \quad 8 \overline{)66}$$

$$19. \quad 6 \overline{)55}$$

$$20. \quad 7 \overline{)51}$$



## PRACTICE

Divide.

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. $2\overline{)5}$   | 2. $3\overline{)8}$   | 3. $4\overline{)7}$   | 4. $5\overline{)9}$   | 5. $6\overline{)8}$   |
| 6. $2\overline{)11}$  | 7. $3\overline{)23}$  | 8. $4\overline{)33}$  | 9. $5\overline{)30}$  | 10. $6\overline{)41}$ |
| 11. $7\overline{)20}$ | 12. $4\overline{)38}$ | 13. $8\overline{)44}$ | 14. $6\overline{)57}$ | 15. $9\overline{)59}$ |
| 16. $5\overline{)8}$  | 17. $3\overline{)21}$ | 18. $2\overline{)7}$  | 19. $3\overline{)4}$  | 20. $4\overline{)6}$  |
| 21. $5\overline{)11}$ | 22. $8\overline{)62}$ | 23. $9\overline{)80}$ | 24. $2\overline{)15}$ | 25. $3\overline{)25}$ |
| 26. $4\overline{)27}$ | 27. $5\overline{)43}$ | 28. $6\overline{)40}$ | 29. $7\overline{)35}$ | 30. $4\overline{)34}$ |
| 31. $3\overline{)7}$  | 32. $8\overline{)69}$ | 33. $5\overline{)7}$  | 34. $9\overline{)70}$ | 35. $8\overline{)63}$ |

Solve.

36. Landy's Bakery has 50 kg of flour. A batch of bread takes 8 kg of flour. How many batches of bread can they make? How much flour will be left?
37. A bakery puts 2 jelly donuts in a snack pack. They have 19 jelly donuts. How many donut snack packs can they make? How many will be left over?
38. Best Bakery had 56 cupcakes to pack in ready-to-go cartons. Tony filled 9 cartons and had 2 cupcakes left over. How many did he put in each carton?

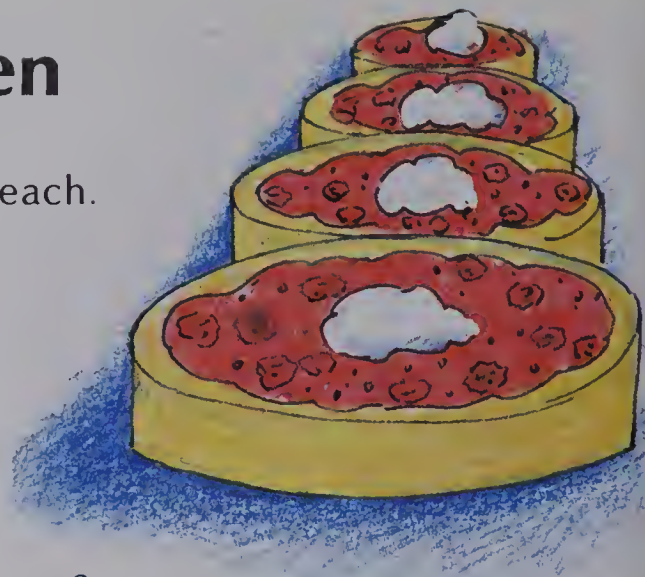
## Important Tips

Eva works at a snack shop for \$3 an hour. She earned \$37 last week, but that included \$10 in tips. How many hours did she work?



# Dividing Multiples of Ten

The bakery sells strawberry shortcakes for \$4 each. Friday they sold \$80 worth of shortcakes. How many shortcakes did they sell?



Divide. Remember that 80 is 8 tens.

$$8 \div 4 = 2$$

$$\begin{array}{r} 2 \\ 4 \overline{) 8} \\ -8 \\ \hline 0 \end{array}$$

$$8 \text{ tens} \div 4 = 2 \text{ tens}$$

$$\begin{array}{r} 20 \\ 4 \overline{) 80} \\ -80 \\ \hline 0 \end{array}$$

The bakery sold 20 shortcakes.

Use the same method for larger numbers.

$$\begin{array}{r} 4 \\ 6 \overline{) 24} \\ -24 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 40 \\ 6 \overline{) 240} \\ -240 \\ \hline 0 \end{array}$$

## EXERCISES

Divide.

1.  $3 \overline{) 6}$

2.  $3 \overline{) 60}$

3.  $2 \overline{) 8}$

4.  $2 \overline{) 80}$

5.  $5 \overline{) 5}$

6.  $5 \overline{) 50}$

7.  $4 \overline{) 16}$

8.  $4 \overline{) 160}$

9.  $6 \overline{) 36}$

10.  $6 \overline{) 360}$

11.  $7 \overline{) 21}$

12.  $7 \overline{) 210}$

13.  $3 \overline{) 27}$

14.  $3 \overline{) 270}$

15.  $8 \overline{) 32}$

16.  $8 \overline{) 320}$

17.  $5 \overline{) 25}$

18.  $5 \overline{) 250}$

19.  $7 \overline{) 63}$

20.  $7 \overline{) 630}$

## PRACTICE

Divide.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 1. $1\overline{)20}$   | 2. $2\overline{)40}$   | 3. $3\overline{)60}$   | 4. $4\overline{)80}$   | 5. $5\overline{)50}$   |
| 6. $5\overline{)150}$  | 7. $6\overline{)240}$  | 8. $7\overline{)350}$  | 9. $8\overline{)320}$  | 10. $9\overline{)270}$ |
| 11. $3\overline{)240}$ | 12. $7\overline{)70}$  | 13. $8\overline{)720}$ | 14. $2\overline{)80}$  | 15. $9\overline{)630}$ |
| 16. $1\overline{)10}$  | 17. $2\overline{)60}$  | 18. $3\overline{)90}$  | 19. $4\overline{)40}$  | 20. $6\overline{)60}$  |
| 21. $5\overline{)300}$ | 22. $6\overline{)360}$ | 23. $7\overline{)420}$ | 24. $8\overline{)640}$ | 25. $9\overline{)810}$ |
| 26. $2\overline{)20}$  | 27. $6\overline{)540}$ | 28. $8\overline{)400}$ | 29. $3\overline{)150}$ | 30. $9\overline{)450}$ |

Solve.

31. A bakery sold bags of Halloween treats for \$4 each. They sold \$280 worth of these bags. How many bags did they sell?
32. Landy's Bakery pays Betty \$3 an hour for working in the shop. Last week she earned \$60. How many hours did she work?
33. Oatmeal cookies are packed in boxes. Nine boxes are used to pack 450 cookies. How many cookies are there in each box?

## Get the Message?

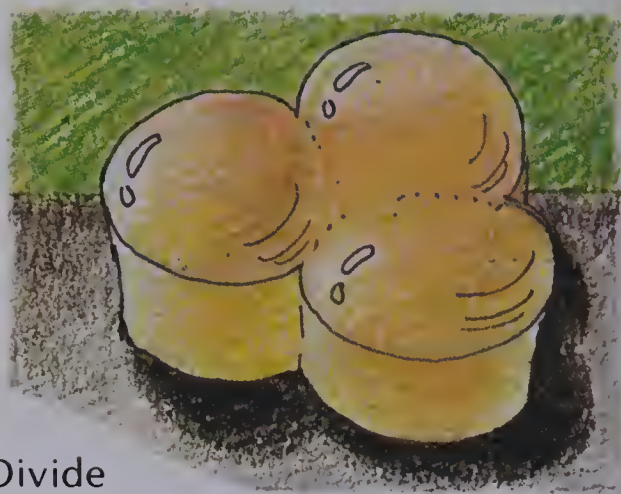


Sweet's Bakery will decorate cookies with any message you wish. Three decorated cookies cost 90¢. How much would 4 decorated cookies cost?



# Two-Stage Division

Tina is making clover-leaf rolls at the bakery. She puts 3 balls of dough together to make each clover-leaf roll. There are 69 balls of dough. How many rolls can she make?



Write the question.

$$3 \overline{)69}$$

Divide the tens.

$$\begin{array}{r} 2 \\ 3 \overline{)69} \\ \underline{-6} \\ 0 \end{array}$$

Remember the ones.

$$\begin{array}{r} 2 \\ 3 \overline{)69} \\ \underline{-6} \downarrow \\ 09 \end{array}$$

Divide the ones.

$$\begin{array}{r} 23 \\ 3 \overline{)69} \\ \underline{-6} \\ 09 \\ \underline{-9} \\ 0 \end{array}$$

Tina can make 23 rolls.

To check your answer, multiply.

$$23 \times 3 = 69$$

## EXERCISES

Copy and complete each division.

1.  $\begin{array}{r} 1\blacksquare \\ 2 \overline{)24} \\ \underline{-2} \\ 04 \end{array}$

2.  $\begin{array}{r} 2\blacksquare \\ 3 \overline{)63} \\ \underline{-6} \\ 03 \end{array}$

3.  $\begin{array}{r} 1\blacksquare \\ 4 \overline{)48} \\ \underline{-4} \\ 08 \end{array}$

4.  $\begin{array}{r} 1\blacksquare \\ 5 \overline{)55} \\ \underline{-5} \\ 05 \end{array}$

5.  $\begin{array}{r} 3\blacksquare \\ 2 \overline{)66} \\ \underline{-6} \\ 06 \end{array}$

6.  $\begin{array}{r} 2\blacksquare \\ 2 \overline{)48} \end{array}$

7.  $\begin{array}{r} 2\blacksquare \\ 4 \overline{)84} \end{array}$

8.  $\begin{array}{r} 1\blacksquare \\ 6 \overline{)66} \end{array}$

9.  $\begin{array}{r} 4\blacksquare \\ 2 \overline{)86} \end{array}$

10.  $\begin{array}{r} 3\blacksquare \\ 3 \overline{)93} \end{array}$

Divide. Check your answer.

11.  $2 \overline{)46}$

12.  $3 \overline{)39}$

13.  $4 \overline{)88}$

14.  $7 \overline{)70}$

15.  $9 \overline{)99}$

# PRACTICE

Divide.

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. $2\overline{)24}$  | 2. $3\overline{)36}$  | 3. $4\overline{)48}$  | 4. $5\overline{)55}$  | 5. $6\overline{)66}$  |
| 6. $2\overline{)48}$  | 7. $3\overline{)69}$  | 8. $4\overline{)84}$  | 9. $7\overline{)70}$  | 10. $8\overline{)88}$ |
| 11. $2\overline{)62}$ | 12. $3\overline{)93}$ | 13. $6\overline{)60}$ | 14. $2\overline{)86}$ | 15. $9\overline{)99}$ |

Divide. Check your answer.

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 16. $3\overline{)63}$ | 17. $2\overline{)22}$ | 18. $3\overline{)39}$ | 19. $4\overline{)44}$ | 20. $5\overline{)50}$ |
| 21. $2\overline{)46}$ | 22. $1\overline{)21}$ | 23. $4\overline{)88}$ | 24. $6\overline{)60}$ | 25. $7\overline{)77}$ |
| 26. $3\overline{)99}$ | 27. $8\overline{)80}$ | 28. $1\overline{)33}$ | 29. $4\overline{)40}$ | 30. $2\overline{)82}$ |

Solve.

31. The bakery can make 3 pies with the cherries from one container. They made 63 pies. How many containers of cherries did they use?

# REVIEW

Divide.

A46

- |                      |                      |                      |                      |                      |
|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1. $3\overline{)18}$ | 2. $5\overline{)35}$ | 3. $7\overline{)56}$ | 4. $4\overline{)28}$ | 5. $9\overline{)72}$ |
|----------------------|----------------------|----------------------|----------------------|----------------------|

A47

- |                      |                      |                      |                      |                       |
|----------------------|----------------------|----------------------|----------------------|-----------------------|
| 6. $5\overline{)11}$ | 7. $6\overline{)27}$ | 8. $7\overline{)38}$ | 9. $8\overline{)49}$ | 10. $9\overline{)58}$ |
|----------------------|----------------------|----------------------|----------------------|-----------------------|

A48

- |                       |                        |                        |                        |                        |
|-----------------------|------------------------|------------------------|------------------------|------------------------|
| 11. $4\overline{)80}$ | 12. $3\overline{)120}$ | 13. $5\overline{)250}$ | 14. $6\overline{)420}$ | 15. $9\overline{)450}$ |
|-----------------------|------------------------|------------------------|------------------------|------------------------|

A49

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 16. $3\overline{)69}$ | 17. $4\overline{)44}$ | 18. $2\overline{)82}$ | 19. $5\overline{)55}$ | 20. $3\overline{)93}$ |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|

# Two-Stage Division

Gary is decorating cakes at the bakery.

He uses 8 candy roses on each cake.

There are 96 candy roses.

How many cakes can he decorate?



Write the question.

Divide the tens.

Remember the ones.

Divide.

$$8 \overline{)96}$$

$$\begin{array}{r} 1 \\ 8 \overline{)96} \\ \underline{-8} \\ 1 \end{array}$$

$$\begin{array}{r} 1 \\ 8 \overline{)96} \\ \underline{-8} \downarrow \\ 16 \end{array}$$

$$\begin{array}{r} 12 \\ 8 \overline{)96} \\ \underline{-8} \\ 16 \\ \underline{-16} \\ 0 \end{array}$$

Gary can decorate 12 cakes.

Check your answer.

$$12 \times 8 = 96$$

## EXERCISES

Copy and complete each division.

1.  $\begin{array}{r} 1\blacksquare \\ 2 \overline{)32} \\ \underline{-2} \\ 12 \end{array}$

2.  $\begin{array}{r} 1\blacksquare \\ 3 \overline{)45} \\ \underline{-3} \\ 15 \end{array}$

3.  $\begin{array}{r} 1\blacksquare \\ 4 \overline{)64} \\ \underline{-4} \\ 24 \end{array}$

4.  $\begin{array}{r} 2\blacksquare \\ 2 \overline{)54} \\ \underline{-4} \\ 14 \end{array}$

5.  $\begin{array}{r} 1\blacksquare \\ 3 \overline{)51} \\ \underline{-3} \\ 21 \end{array}$

6.  $\begin{array}{r} 2\blacksquare \\ 3 \overline{)72} \end{array}$

7.  $\begin{array}{r} 1\blacksquare \\ 4 \overline{)72} \end{array}$

8.  $\begin{array}{r} 3\blacksquare \\ 2 \overline{)76} \end{array}$

9.  $\begin{array}{r} 2\blacksquare \\ 3 \overline{)84} \end{array}$

10.  $\begin{array}{r} 1\blacksquare \\ 5 \overline{)65} \end{array}$

Divide. Check your answer.

11.  $4 \overline{)52}$

12.  $6 \overline{)84}$

13.  $7 \overline{)81}$

14.  $3 \overline{)75}$

15.  $8 \overline{)96}$

16.  $2 \overline{)92}$

17.  $5 \overline{)90}$

18.  $6 \overline{)96}$

19.  $4 \overline{)92}$

20.  $5 \overline{)85}$



# PRACTICE

Divide.

1.  $2\overline{)32}$

2.  $3\overline{)45}$

3.  $4\overline{)52}$

4.  $5\overline{)65}$

5.  $6\overline{)72}$

6.  $2\overline{)54}$

7.  $3\overline{)51}$

8.  $4\overline{)64}$

9.  $5\overline{)70}$

10.  $6\overline{)84}$

11.  $2\overline{)72}$

12.  $3\overline{)75}$

13.  $4\overline{)72}$

14.  $3\overline{)84}$

15.  $2\overline{)92}$

Divide. Check your answer.

16.  $2\overline{)36}$

17.  $3\overline{)48}$

18.  $4\overline{)56}$

19.  $5\overline{)60}$

20.  $6\overline{)78}$

21.  $2\overline{)58}$

22.  $3\overline{)57}$

23.  $4\overline{)68}$

24.  $5\overline{)75}$

25.  $6\overline{)96}$

26.  $2\overline{)76}$

27.  $3\overline{)78}$

28.  $4\overline{)76}$

29.  $3\overline{)87}$

30.  $2\overline{)98}$

Write a division fact for each multiplication fact.

31.  $17 \times 2 = 34$

32.  $19 \times 5 = 95$

33.  $12 \times 8 = 96$

34.  $26 \times 2 = 52$

35.  $28 \times 3 = 84$

36.  $47 \times 2 = 94$

Solve.

37. Eight children each bought a cookie with a Happy Face on it. In all they paid 96¢. How much did each cookie cost?

38. Landy's Bakery sold \$85 worth of chocolate fudge cakes. Each cake cost \$5. How many cakes were sold?

## Just Among Friends

If you divide 96 quarters among 4 friends, how many dollars will each friend get?



# Division with Remainders



The Tart Shop sells butter tarts in trays of 6.  
They have 80 butter tarts. How many trays of tarts  
can they make? How many tarts will be left over?

Write the  
question.

$$6 \overline{)80}$$

Divide  
the tens.

$$\begin{array}{r} 1 \\ 6 \overline{)80} \\ \underline{-6} \phantom{0} \\ 2 \phantom{0} \end{array}$$

Remember  
the ones.

$$\begin{array}{r} 1 \\ 6 \overline{)80} \\ \underline{-6} \phantom{0} \\ 20 \end{array}$$

Divide.

$$\begin{array}{r} 13 \\ 6 \overline{)80} \\ \underline{-6} \phantom{0} \\ 20 \\ \underline{-18} \\ 2 \end{array}$$

Write the  
remainder.

$$\begin{array}{r} 13R2 \\ 6 \overline{)80} \\ \underline{-6} \phantom{0} \\ 20 \\ \underline{-18} \\ 2 \end{array}$$

They can make 13 trays of tarts.  
There will be 2 tarts left over.

Check: Multiply the quotient  
by the divisor.

$$\begin{array}{r} 13 \\ \times 6 \\ \hline 78 \end{array}$$

Add the remainder.

$$\begin{array}{r} 78 \\ + 2 \\ \hline \end{array}$$

The **dividend** is

80

## EXERCISES

Divide.

$$\begin{array}{r} 1 \blacksquare R \blacksquare \\ 1. \quad 2 \overline{)25} \\ \underline{-2} \phantom{0} \\ 05 \end{array}$$

$$\begin{array}{r} 1 \blacksquare R \blacksquare \\ 2. \quad 2 \overline{)37} \\ \underline{-2} \phantom{0} \\ 17 \end{array}$$

$$\begin{array}{r} 1 \blacksquare R \blacksquare \\ 3. \quad 3 \overline{)34} \\ \underline{-3} \phantom{0} \\ 04 \end{array}$$

$$\begin{array}{r} 1 \blacksquare R \blacksquare \\ 4. \quad 3 \overline{)47} \\ \underline{-3} \phantom{0} \\ 17 \end{array}$$

$$\begin{array}{r} 1 \blacksquare R \blacksquare \\ 5. \quad 4 \overline{)46} \\ \underline{-4} \phantom{0} \\ 06 \end{array}$$

$$\begin{array}{r} 1 \blacksquare R \blacksquare \\ 6. \quad 4 \overline{)59} \end{array}$$

$$\begin{array}{r} 2 \blacksquare R \blacksquare \\ 7. \quad 2 \overline{)43} \end{array}$$

$$\begin{array}{r} 2 \blacksquare R \blacksquare \\ 8. \quad 2 \overline{)55} \end{array}$$

$$\begin{array}{r} 1 \blacksquare R \blacksquare \\ 9. \quad 3 \overline{)56} \end{array}$$

$$\begin{array}{r} 2 \blacksquare R \blacksquare \\ 10. \quad 3 \overline{)62} \end{array}$$

Divide. Check your answer.

$$11. \quad 4 \overline{)67}$$

$$12. \quad 4 \overline{)70}$$

$$13. \quad 6 \overline{)67}$$

$$14. \quad 5 \overline{)83}$$

$$15. \quad 7 \overline{)79}$$

## PRACTICE

Divide.

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. $2\overline{)23}$  | 2. $3\overline{)65}$  | 3. $4\overline{)87}$  | 4. $5\overline{)51}$  | 5. $7\overline{)75}$  |
| 6. $2\overline{)37}$  | 7. $3\overline{)55}$  | 8. $4\overline{)74}$  | 9. $6\overline{)86}$  | 10. $9\overline{)94}$ |
| 11. $2\overline{)59}$ | 12. $6\overline{)67}$ | 13. $3\overline{)88}$ | 14. $7\overline{)95}$ | 15. $4\overline{)65}$ |

Divide. Check your answer.

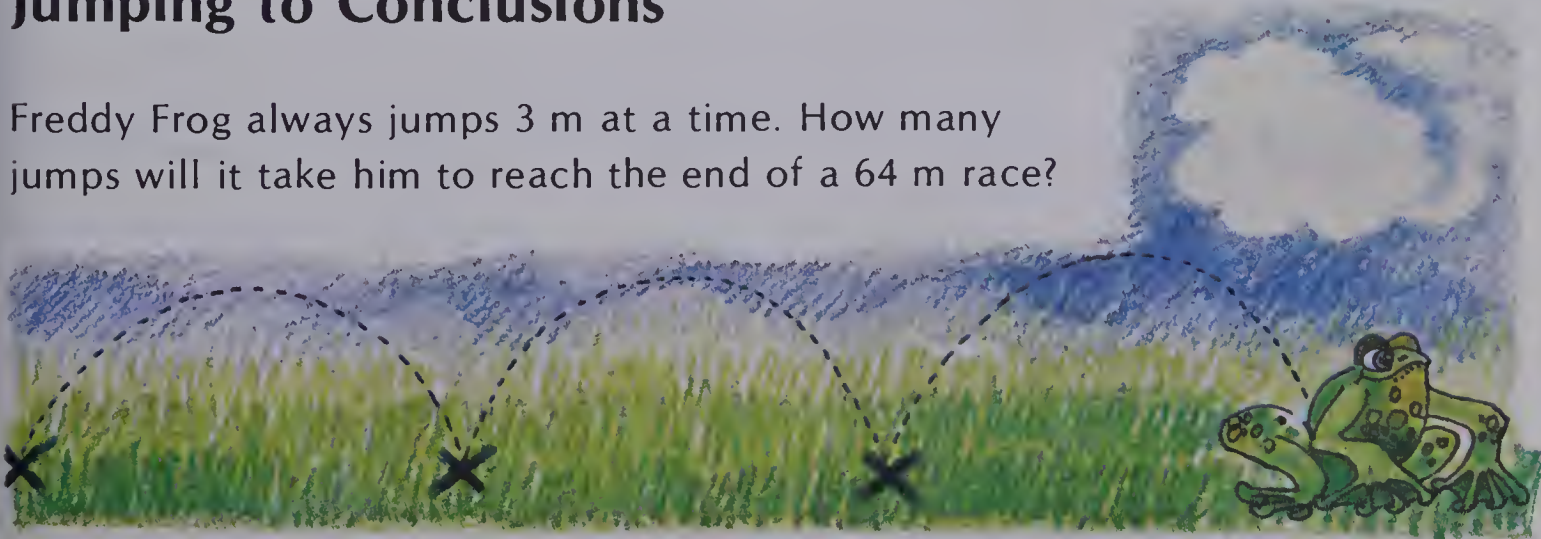
- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 16. $2\overline{)49}$ | 17. $3\overline{)92}$ | 18. $4\overline{)49}$ | 19. $5\overline{)58}$ | 20. $7\overline{)73}$ |
| 21. $2\overline{)53}$ | 22. $3\overline{)47}$ | 23. $4\overline{)59}$ | 24. $6\overline{)71}$ | 25. $8\overline{)90}$ |
| 26. $3\overline{)97}$ | 27. $8\overline{)98}$ | 28. $2\overline{)65}$ | 29. $7\overline{)88}$ | 30. $9\overline{)99}$ |

Solve.

31. The Tart Shop packs lemon tarts in packs of 5. How many packs can be made up from a batch of 68 tarts? How many tarts will be left over?
32. The Tart Shop packed 6 trays of raspberry tarts from a batch of 75 tarts. There were 3 tarts left over. How many tarts were in each tray?

## Jumping to Conclusions

Freddy Frog always jumps 3 m at a time. How many jumps will it take him to reach the end of a 64 m race?





# Three-Digit Dividends

Landy's Bakery sold 123 loaves of bread in 3 days.

About how many loaves did they sell each day?

Write the question.

Divide  
12 tens by 3.

Remember  
the ones.

Divide  
the ones.

$$\begin{array}{r} 3 \overline{)123} \end{array}$$

$$\begin{array}{r} 4 \\ 3 \overline{)123} \\ \underline{-12} \\ 0 \end{array}$$

$$\begin{array}{r} 4 \\ 3 \overline{)123} \\ \underline{-12} \downarrow \\ 03 \end{array}$$

$$\begin{array}{r} 41 \\ 3 \overline{)123} \\ \underline{-12} \\ 03 \\ \underline{-3} \\ 0 \end{array}$$

They sold about 41 loaves each day.

Check:

$$\begin{array}{r} 41 \\ \times 3 \\ \hline 123 \end{array}$$

## EXERCISES

Copy and complete the division.

1.  $\begin{array}{r} 5\blacksquare \\ 2 \overline{)104} \\ \underline{-10} \\ 04 \end{array}$

2.  $\begin{array}{r} 5\blacksquare \\ 3 \overline{)159} \\ \underline{-15} \\ 09 \end{array}$

3.  $\begin{array}{r} 3\blacksquare \\ 4 \overline{)128} \\ \underline{-12} \\ 08 \end{array}$

4.  $\begin{array}{r} 2\blacksquare \\ 5 \overline{)105} \\ \underline{-10} \\ 05 \end{array}$

5.  $\begin{array}{r} 3\blacksquare \\ 6 \overline{)186} \\ \underline{-18} \\ 06 \end{array}$

6.  $\begin{array}{r} 8\blacksquare \\ 3 \overline{)246} \end{array}$

7.  $\begin{array}{r} 5\blacksquare \\ 4 \overline{)208} \end{array}$

8.  $\begin{array}{r} 4\blacksquare \\ 6 \overline{)246} \end{array}$

9.  $\begin{array}{r} 4\blacksquare \\ 7 \overline{)287} \end{array}$

10.  $\begin{array}{r} 3\blacksquare \\ 8 \overline{)248} \end{array}$

Divide. Check your answer.

11.  $2 \overline{)164}$

12.  $5 \overline{)255}$

13.  $7 \overline{)357}$

14.  $8 \overline{)328}$

15.  $9 \overline{)369}$

16.  $2 \overline{)188}$

17.  $3 \overline{)213}$

18.  $4 \overline{)244}$

19.  $5 \overline{)400}$

20.  $6 \overline{)420}$

## PRACTICE

Divide.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 1. $2\overline{)106}$  | 2. $3\overline{)186}$  | 3. $4\overline{)168}$  | 4. $5\overline{)155}$  | 5. $6\overline{)126}$  |
| 6. $3\overline{)219}$  | 7. $5\overline{)205}$  | 8. $7\overline{)287}$  | 9. $8\overline{)248}$  | 10. $9\overline{)279}$ |
| 11. $4\overline{)328}$ | 12. $5\overline{)355}$ | 13. $7\overline{)357}$ | 14. $8\overline{)328}$ | 15. $9\overline{)369}$ |

Divide. Check your answer.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 16. $2\overline{)184}$ | 17. $3\overline{)153}$ | 18. $4\overline{)164}$ | 19. $5\overline{)105}$ | 20. $6\overline{)186}$ |
| 21. $3\overline{)276}$ | 22. $4\overline{)288}$ | 23. $5\overline{)255}$ | 24. $6\overline{)246}$ | 25. $7\overline{)217}$ |
| 26. $5\overline{)305}$ | 27. $6\overline{)366}$ | 28. $7\overline{)427}$ | 29. $8\overline{)568}$ | 30. $9\overline{)639}$ |

Write a division sentence for each multiplication.

- |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|
| 31. $64 \times 2 = 128$ | 32. $52 \times 3 = 156$ | 33. $41 \times 4 = 164$ |
| 34. $41 \times 5 = 205$ | 35. $41 \times 6 = 246$ | 36. $31 \times 8 = 248$ |

Solve.

37. Mr. Lucas makes bread at the bakery. He makes the same number of loaves 6 days a week. Last week he made 306 loaves. How many loaves of bread did he make each day?
38. Christmas cakes from the Specialty Bakery sell for \$8 each. On Tuesday, the cake sales were \$328. How many cakes were sold that day?

## A Pressing Problem

It takes 2 hours to press 21 pairs of pants. 6 friends share the work equally. For how many minutes will each friend press?



# Three-Digit Dividends

Landy's Bakery has 258 kg of bran. They use 6 kg of bran in each batch of muffins. How many batches of muffins can they make with the bran?



Write the question.

$$6 \overline{)258}$$

Divide 25 tens by 6.

$$\begin{array}{r} 4 \\ 6 \overline{)258} \\ \underline{-24} \\ 1 \end{array}$$

Remember the ones.

$$\begin{array}{r} 4 \\ 6 \overline{)258} \\ \underline{-24} \downarrow \\ 18 \end{array}$$

Divide the ones.

$$\begin{array}{r} 43 \\ 6 \overline{)258} \\ \underline{-24} \\ 18 \\ \underline{-18} \\ 0 \end{array}$$

Check:

$$\begin{array}{r} 43 \\ \times 6 \\ \hline 258 \end{array}$$

They can make 43 batches of muffins.

## EXERCISES

Copy and complete the division.

1.  $\begin{array}{r} 5\blacksquare \\ 2 \overline{)114} \\ \underline{-10} \\ 14 \end{array}$

2.  $\begin{array}{r} 3\blacksquare \\ 3 \overline{)108} \\ \underline{-9} \\ 18 \end{array}$

3.  $\begin{array}{r} 3\blacksquare \\ 4 \overline{)136} \\ \underline{-12} \\ 16 \end{array}$

4.  $\begin{array}{r} 2\blacksquare \\ 5 \overline{)115} \\ \underline{-10} \\ 15 \end{array}$

5.  $\begin{array}{r} 3\blacksquare \\ 6 \overline{)198} \\ \underline{-18} \\ 18 \end{array}$

6.  $\begin{array}{r} 6\blacksquare \\ 3 \overline{)201} \end{array}$

7.  $\begin{array}{r} 5\blacksquare \\ 5 \overline{)275} \end{array}$

8.  $\begin{array}{r} 4\blacksquare \\ 6 \overline{)264} \end{array}$

9.  $\begin{array}{r} 4\blacksquare \\ 7 \overline{)291} \end{array}$

10.  $\begin{array}{r} 3\blacksquare \\ 8 \overline{)272} \end{array}$

Divide. Check your answer.

11.  $2 \overline{)176}$

12.  $6 \overline{)336}$

13.  $7 \overline{)364}$

14.  $8 \overline{)344}$

15.  $9 \overline{)387}$

16.  $5 \overline{)310}$

17.  $4 \overline{)384}$

18.  $6 \overline{)504}$

19.  $7 \overline{)481}$

20.  $8 \overline{)664}$



# PRACTICE

Divide.

1.  $2 \overline{)114}$

2.  $3 \overline{)105}$

3.  $4 \overline{)152}$

4.  $5 \overline{)135}$

5.  $6 \overline{)168}$

6.  $3 \overline{)222}$

7.  $4 \overline{)256}$

8.  $5 \overline{)275}$

9.  $6 \overline{)264}$

10.  $7 \overline{)224}$

11.  $4 \overline{)336}$

12.  $5 \overline{)325}$

13.  $6 \overline{)336}$

14.  $7 \overline{)329}$

15.  $8 \overline{)336}$

Divide. Check your answers.

16.  $2 \overline{)194}$

17.  $3 \overline{)174}$

18.  $4 \overline{)192}$

19.  $5 \overline{)180}$

20.  $6 \overline{)174}$

21.  $3 \overline{)261}$

22.  $4 \overline{)296}$

23.  $5 \overline{)265}$

24.  $6 \overline{)288}$

25.  $7 \overline{)266}$

26.  $5 \overline{)385}$

27.  $6 \overline{)474}$

28.  $7 \overline{)581}$

29.  $8 \overline{)672}$

30.  $9 \overline{)846}$

Write a division sentence for each multiplication.

31.  $66 \times 2 = 132$

32.  $57 \times 3 = 171$

33.  $36 \times 4 = 144$

34.  $48 \times 5 = 240$

35.  $26 \times 7 = 182$

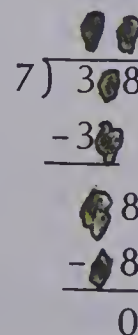
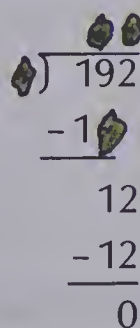
36.  $24 \times 9 = 216$

Solve.

37. Landy's Bakery uses 300 mL of baking soda in cookie dough each week. They bake cookies 4 times a week. How much baking soda do they use each time they bake cookies?

# Raisin Trouble

Show what numbers are under the raisins.



# Remainders

Bon Appétit Restaurant needs 152 pieces of pie for the Garden Club luncheon. A pie can be cut into 6 pieces. How many pies do they need?

Write the question.

$$6 \overline{)152}$$

Divide 6 into 15 tens.

$$\begin{array}{r} 2 \\ 6 \overline{)152} \\ \underline{-12} \\ 3 \end{array}$$

Remember the ones.

$$\begin{array}{r} 2 \\ 6 \overline{)152} \\ \underline{-12} \\ 32 \end{array}$$

Divide the ones.

$$\begin{array}{r} 25 \\ 6 \overline{)152} \\ \underline{-12} \\ 32 \\ \underline{-30} \\ 2 \end{array}$$

Write the remainder.

$$\begin{array}{r} 25R2 \\ 6 \overline{)152} \\ \underline{-12} \\ 32 \\ \underline{-30} \\ 2 \end{array}$$

They need 25 pies, and 2 pieces more.

Check:	25	quotient
	$\times 6$	divisor
	<hr/>	
	150	
	$+ 2$	remainder
	<hr/>	
	152	dividend

## EXERCISES

Copy and complete the division.

1.  $\begin{array}{r} 5 \square R \square \\ 2 \overline{)113} \\ \underline{-10} \\ 13 \end{array}$

2.  $\begin{array}{r} 3 \square R \square \\ 3 \overline{)107} \\ \underline{-9} \\ 17 \end{array}$

3.  $\begin{array}{r} 4 \square R \square \\ 4 \overline{)169} \\ \underline{-16} \\ 09 \end{array}$

4.  $\begin{array}{r} 3 \square R \square \\ 5 \overline{)167} \\ \underline{-15} \\ 17 \end{array}$

5.  $\begin{array}{r} 3 \square R \square \\ 6 \overline{)189} \\ \underline{-18} \\ 09 \end{array}$

6.  $\begin{array}{r} 7 \square R \square \\ 2 \overline{)155} \end{array}$

7.  $\begin{array}{r} 6 \square R \square \\ 4 \overline{)249} \end{array}$

8.  $\begin{array}{r} 4 \square R \square \\ 6 \overline{)275} \end{array}$

9.  $\begin{array}{r} 4 \square R \square \\ 7 \overline{)299} \end{array}$

10.  $\begin{array}{r} 3 \square R \square \\ 8 \overline{)247} \end{array}$

Divide. Check your answer.

11.  $3 \overline{)271}$

12.  $5 \overline{)368}$

13.  $7 \overline{)397}$

14.  $8 \overline{)388}$

15.  $9 \overline{)489}$

## PRACTICE

Divide.

1.  $2 \overline{)125}$

2.  $3 \overline{)108}$

3.  $4 \overline{)167}$

4.  $5 \overline{)193}$

5.  $6 \overline{)157}$

6.  $3 \overline{)257}$

7.  $4 \overline{)281}$

8.  $5 \overline{)252}$

9.  $6 \overline{)278}$

10.  $7 \overline{)263}$

11.  $4 \overline{)370}$

12.  $6 \overline{)485}$

13.  $7 \overline{)583}$

14.  $8 \overline{)722}$

15.  $9 \overline{)807}$

Divide. Check your answers.

16.  $5 \overline{)398}$

17.  $6 \overline{)574}$

18.  $7 \overline{)631}$

19.  $8 \overline{)769}$

20.  $9 \overline{)812}$

Solve.

21. The Cookie Factory packs Coconut Crunchies in packs of 6. How many packs can be made from 260 cookies? How many cookies are left?

## Some Remaining Riddles

I am a number between 20 and 35.  
I have a remainder of 1 when divided  
by 2, 3, or 5. Who am I?

I am a number between 50 and 70.  
I have a remainder of 1 when divided by 3.  
I have a remainder of 4 when divided by 6.  
I have no remainder when divided by 4.  
Who am I?

I am a number between 330 and 360.  
I have a remainder of 1 when divided by 6.  
I have a remainder of 5 when divided by 8.  
Who am I?





# Problem Solving Quiz



Name the operation that gives the correct answer.

1. How many lemon tarts are there in a box that contains 2 rows with 6 tarts in each row?

$6 + 2$        $6 - 2$        $6 \times 2$        $6 \div 2$

2. How much do a 30¢ honey donut and 40¢ jelly donut cost together?

$40 + 30$        $40 - 30$        $40 \times 30$        $40 \div 30$

3. A batch of 24 rolls is packed in bags with 6 rolls in each. How many bags of rolls are there?

$24 + 6$        $24 - 6$        $24 \times 6$        $24 \div 6$

4. A big chocolate cake costs \$9.00. A small one costs \$3.00. What is the difference in price?

$9 + 3$        $9 - 3$        $9 \times 3$        $9 \div 3$

5. How many brownies are needed to fill an order for three dozen brownies?

$12 + 3$        $12 - 3$        $12 \times 3$        $12 \div 3$

6. How many cookies are there in an order of 24 chocolate chip and 12 oatmeal cookies?

$24 + 12$        $24 - 12$        $24 \times 12$        $24 \div 12$

7. A bakery uses 48 butter tarts to fill 8 trays. How many tarts are there in each tray?

$48 + 8$        $48 - 8$        $48 \times 8$        $48 \div 8$

8. A 3.2 g piece of candy and a 2.6 g piece were left. How much candy was left?

$3.2 + 2.6$        $3.2 - 2.6$        $3.2 \times 2.6$        $3.2 \div 2.6$

## PRACTICE

Solve.

1. Natalie bought a dozen coconut cookies for \$1.80 and a dozen date cookies for \$1.20. How much did she pay for all the cookies?
2. Leon bought a tray of strawberry tarts for supper. The tray had 4 rows of 6 tarts. How many tarts did he get?
3. Best Bakery packs hamburger buns in plastic bags. There are 8 buns in a bag. How many bags are needed for a batch of 80 buns?
4. Joanne wanted to buy a pie. The blueberry pie cost \$2.50 and the banana cream pie cost \$3.20. What was the difference in price?
5. Dante's father bought 3 bags of hot dog buns for their family picnic. There were 8 buns in each bag. How many buns did his father buy altogether?

## REVIEW

Divide.

A50

1.  $2 \overline{)52}$

2.  $3 \overline{)45}$

3.  $4 \overline{)68}$

4.  $5 \overline{)60}$

5.  $6 \overline{)84}$

A51

6.  $4 \overline{)97}$

7.  $3 \overline{)40}$

8.  $2 \overline{)55}$

9.  $7 \overline{)81}$

10.  $6 \overline{)81}$

A52

11.  $2 \overline{)146}$

12.  $3 \overline{)243}$

13.  $4 \overline{)328}$

14.  $6 \overline{)366}$

15.  $9 \overline{)459}$

A53

16.  $3 \overline{)162}$

17.  $2 \overline{)130}$

18.  $4 \overline{)256}$

19.  $7 \overline{)441}$

20.  $8 \overline{)424}$

A54

21.  $4 \overline{)230}$

22.  $5 \overline{)411}$

23.  $2 \overline{)131}$

24.  $3 \overline{)133}$

25.  $8 \overline{)420}$

# TEST

# UNIT 9

Divide.

1.  $4 \overline{)24}$

2.  $2 \overline{)14}$

3.  $3 \overline{)18}$

4.  $4 \overline{)28}$

5.  $6 \overline{)36}$

6.  $4 \overline{)16}$

7.  $5 \overline{)25}$

8.  $6 \overline{)42}$

9.  $7 \overline{)49}$

10.  $8 \overline{)72}$

11.  $3 \overline{)16}$

12.  $4 \overline{)18}$

13.  $5 \overline{)32}$

14.  $7 \overline{)37}$

15.  $8 \overline{)43}$

16.  $5 \overline{)23}$

17.  $6 \overline{)38}$

18.  $7 \overline{)45}$

19.  $8 \overline{)60}$

20.  $9 \overline{)71}$

21.  $2 \overline{)80}$

22.  $2 \overline{)90}$

23.  $4 \overline{)40}$

24.  $5 \overline{)50}$

25.  $6 \overline{)60}$

26.  $4 \overline{)160}$

27.  $5 \overline{)350}$

28.  $6 \overline{)540}$

29.  $7 \overline{)630}$

30.  $8 \overline{)400}$

31.  $2 \overline{)26}$

32.  $3 \overline{)63}$

33.  $4 \overline{)48}$

34.  $6 \overline{)66}$

35.  $7 \overline{)77}$

36.  $3 \overline{)48}$

37.  $4 \overline{)92}$

38.  $5 \overline{)65}$

39.  $6 \overline{)84}$

40.  $8 \overline{)96}$

41.  $5 \overline{)54}$

42.  $6 \overline{)73}$

43.  $7 \overline{)79}$

44.  $8 \overline{)90}$

45.  $4 \overline{)65}$

46.  $2 \overline{)168}$

47.  $3 \overline{)126}$

48.  $4 \overline{)324}$

49.  $5 \overline{)405}$

50.  $8 \overline{)568}$

51.  $3 \overline{)171}$

52.  $4 \overline{)272}$

53.  $5 \overline{)325}$

54.  $7 \overline{)441}$

55.  $9 \overline{)783}$

56.  $5 \overline{)413}$

57.  $6 \overline{)502}$

58.  $7 \overline{)655}$

59.  $8 \overline{)778}$

60.  $9 \overline{)869}$

Solve.

61. The Cookie Shop uses 570 g of raisins in the dough for 6 batches of cookies. How many grams of raisins are in each batch of cookies?



## MULTIPLICATION

Multiply.

1. 
$$\begin{array}{r} 50 \\ \times 5 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 30 \\ \times 6 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 60 \\ \times 4 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 80 \\ \times 7 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 70 \\ \times 9 \\ \hline \end{array}$$

Find the answer.

6.  $6 \times (4 + 4)$     7.  $7 \times (6 + 2)$     8.  $8 \times (5 + 4)$     9.  $7 \times (30 + 50)$

Multiply.

10. 
$$\begin{array}{r} 13 \\ \times 3 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 21 \\ \times 4 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 52 \\ \times 3 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 74 \\ \times 2 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 83 \\ \times 3 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 45 \\ \times 2 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 27 \\ \times 3 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 18 \\ \times 4 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 46 \\ \times 6 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 74 \\ \times 5 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 400 \\ \times 2 \\ \hline \end{array}$$

21. 
$$\begin{array}{r} 300 \\ \times 3 \\ \hline \end{array}$$

22. 
$$\begin{array}{r} 200 \\ \times 4 \\ \hline \end{array}$$

23. 
$$\begin{array}{r} 700 \\ \times 5 \\ \hline \end{array}$$

24. 
$$\begin{array}{r} 600 \\ \times 9 \\ \hline \end{array}$$

25. 
$$\begin{array}{r} 420 \\ \times 2 \\ \hline \end{array}$$

26. 
$$\begin{array}{r} 313 \\ \times 3 \\ \hline \end{array}$$

27. 
$$\begin{array}{r} 302 \\ \times 4 \\ \hline \end{array}$$

28. 
$$\begin{array}{r} 632 \\ \times 3 \\ \hline \end{array}$$

29. 
$$\begin{array}{r} 627 \\ \times 3 \\ \hline \end{array}$$

30. 
$$\begin{array}{r} 134 \\ \times 2 \\ \hline \end{array}$$

31. 
$$\begin{array}{r} 421 \\ \times 4 \\ \hline \end{array}$$

32. 
$$\begin{array}{r} 328 \\ \times 3 \\ \hline \end{array}$$

33. 
$$\begin{array}{r} 518 \\ \times 5 \\ \hline \end{array}$$

34. 
$$\begin{array}{r} 759 \\ \times 6 \\ \hline \end{array}$$

35.  $3 \times 1 \times 3$     36.  $4 \times 2 \times 5$     37.  $5 \times 7 \times 0$     38.  $5 \times 3 \times 6$

Solve.

39. A supermarket rents rug cleaners for \$3 a day. On Saturday they took in \$24 for renting rug cleaners. How many machines did they rent?

40. One carton contains 16 boxes of detergent. How many boxes are there in 6 cartons?



# UNIT 10

## MEASUREMENT





# Tiling

# Can you tile this wall?

1. 4 sixes	2. $4 \times 7$	3. $\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$	4. $2 \times 9$
5. $\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$	6. 9 fours	7. $7 \times 8$	8. $\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$
9. $4 \times 9$	10. $\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$	11. $4 \times 7$	12. 6 zeroes
13. $\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$	14. $8 \times 7$	15. 7 fives	16. $\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$
17. 6 fives	18. $\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$	19. $5 \times 7$	20. 8 sevens

## Digit Notice?

For each row, add all the digits in the answers. Do you notice something?



# Area

Todd is making a bulletin board for his room. He put 4 squares of cork in the first row. He will make 3 rows.

3 rows of 4  
 $3 \times 4$   
 12 square units of cork

**Area** is the number of units it takes to cover a surface.

The area of the bulletin board is 12 square units of cork.

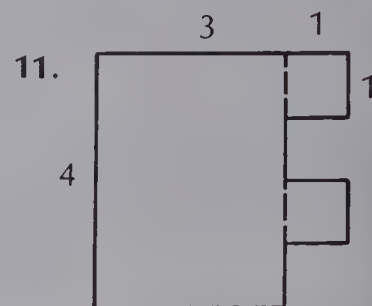
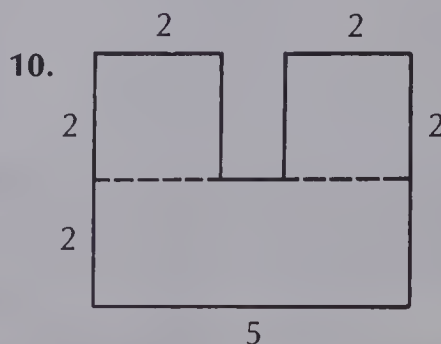
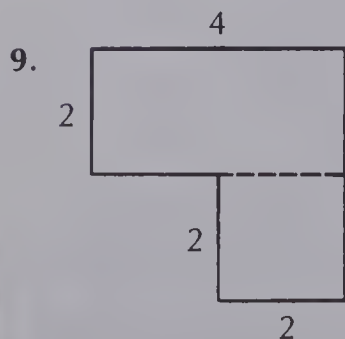
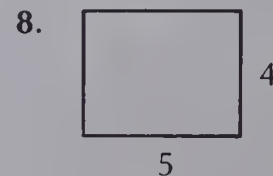
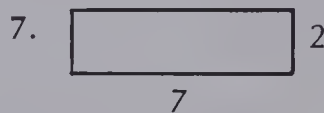
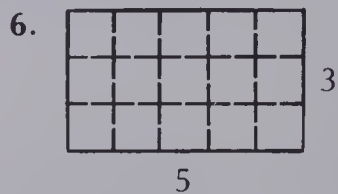
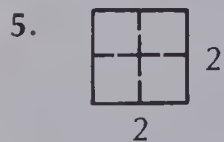
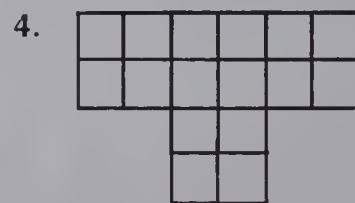
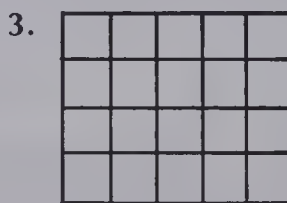
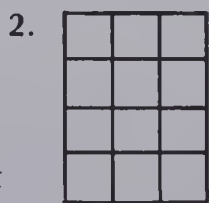


## EXERCISES

What is the area?

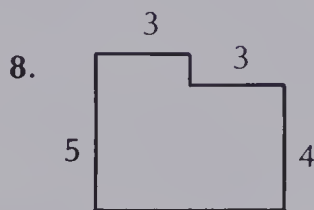
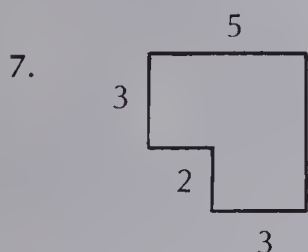
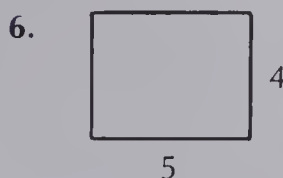
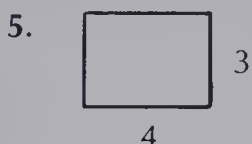
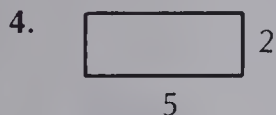
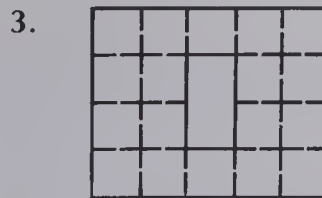
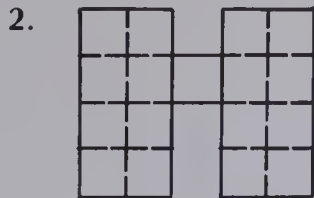


1 square unit



# PRACTICE

What is the area?



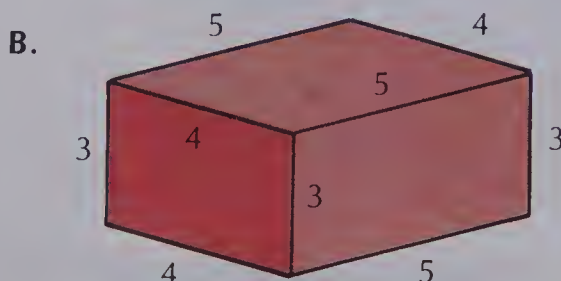
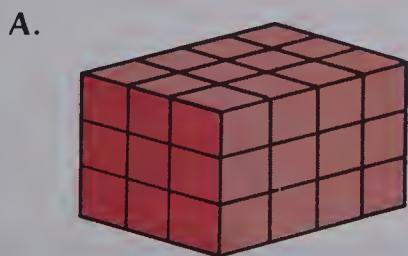
Solve.

9. How many mathematics books does it take to cover the top of the teacher's desk?
10. Take a piece of paper. Estimate how many of your hands will cover it. Trace your hand as many times as you can on the paper. How many "hands" is the paper?

## Surface Area

What is the surface area of each box?

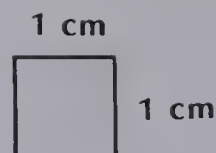
*Remember! A box has 6 faces.*



# Area

Here is a square 1 cm long and 1 cm wide.

Its area is one **square centimetre** ( $\text{cm}^2$ ).



Small areas are measured in square centimetres.



8 square centimetres

$8 \text{ cm}^2$

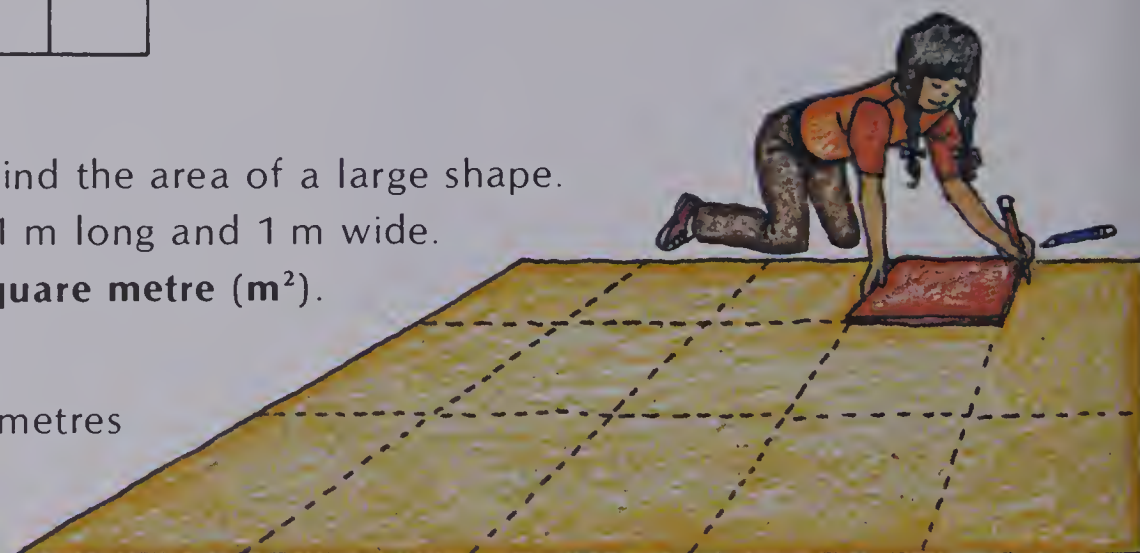
Colette wanted to find the area of a large shape.

She used a square 1 m long and 1 m wide.

Her unit was one **square metre** ( $\text{m}^2$ ).

15 square metres

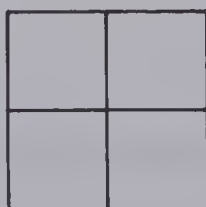
$15 \text{ m}^2$



## EXERCISES

What is the area in square centimetres?

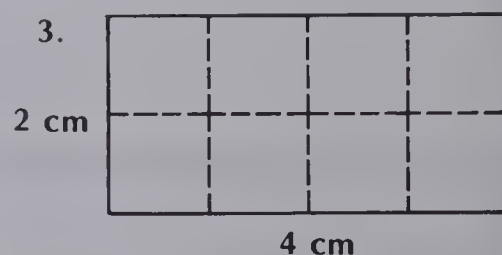
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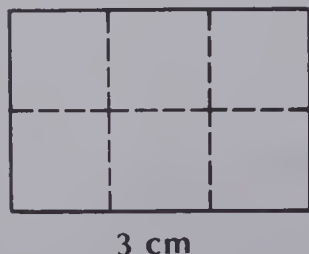
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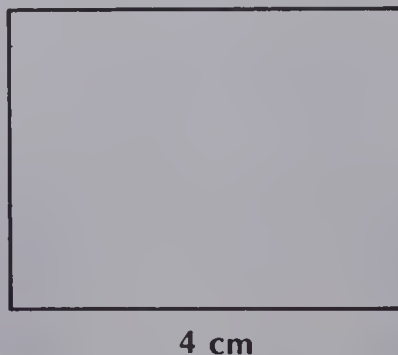
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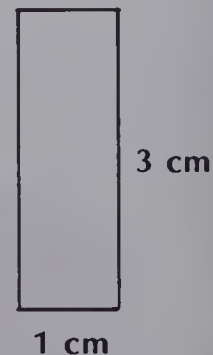
4.



5.



6.

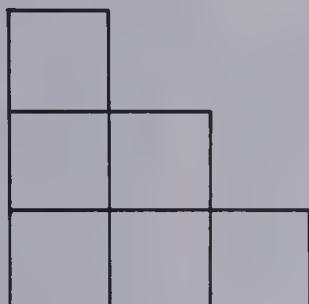




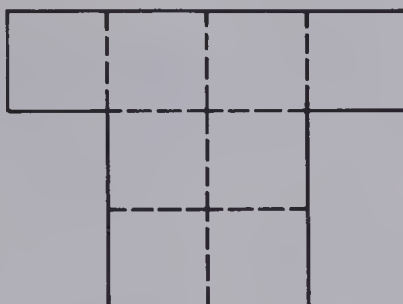
## PRACTICE

What is the area in square centimetres?

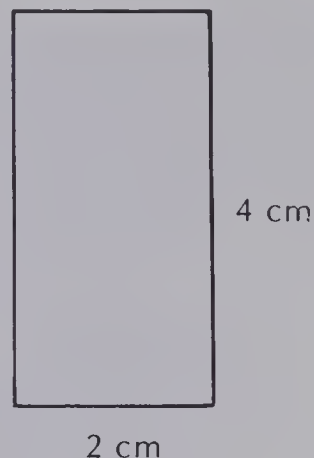
1.



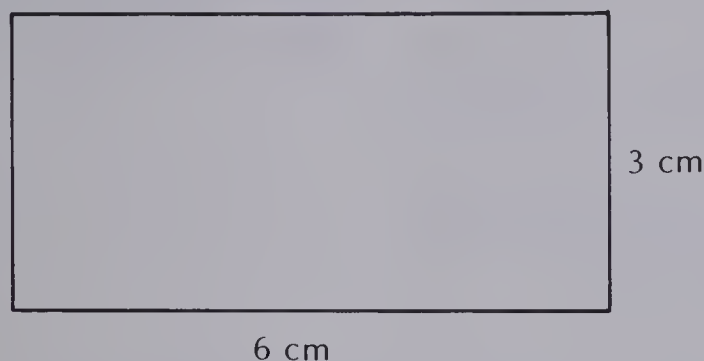
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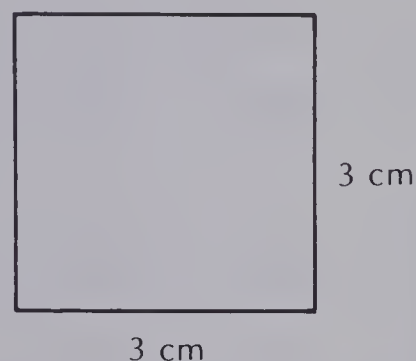
3.



4.



5.

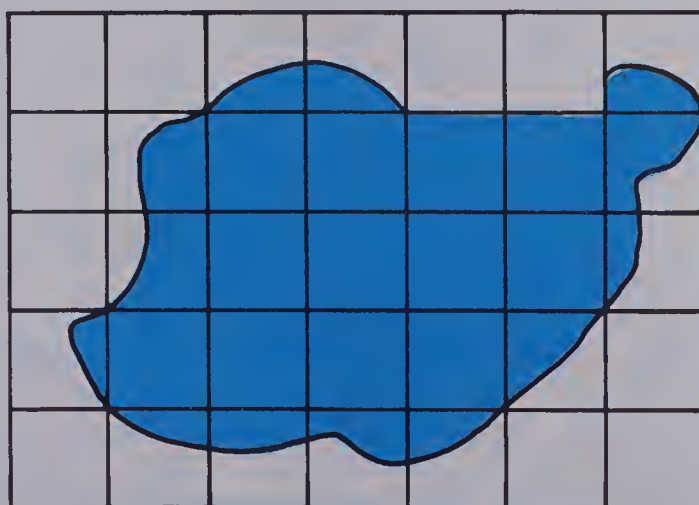


Solve.

6. What is the area of your classroom in square metres?
7. What is the area of the hallway outside your classroom in square metres?

## Estimating Areas

1. How many  $\square$ s are covered by the figure? (Count  $\square$ s that are partly covered too.)
2. How many  $\square$ s are completely covered by the figure?
3. Estimate the area of the figure.  
*Hint:* It is an amount between your first answer and your second answer.



# Volume

Martin put away his little brother's blocks in a box. He put in 3 rows of 4 blocks to make the first layer. Then he put in 2 more layers. How many blocks were in the box?

$$\begin{array}{ll} \text{each layer:} & 3 \times 4 = 12 \\ \text{three layers:} & 3 \times 12 = 36 \end{array}$$

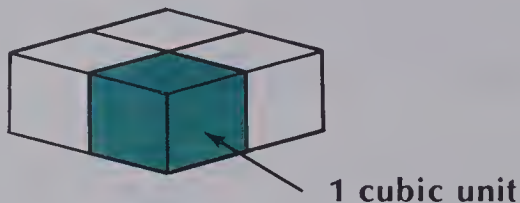
There were 36 blocks in the box.  
The **volume** of the box was 36 blocks or cubes.



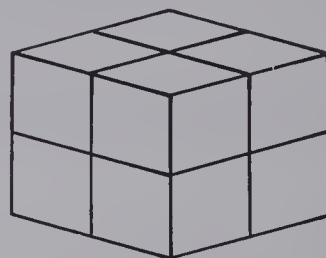
## EXERCISES

What is the volume of each solid?

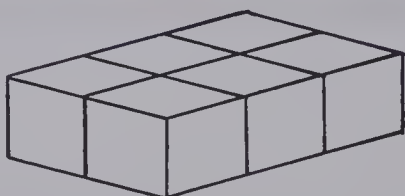
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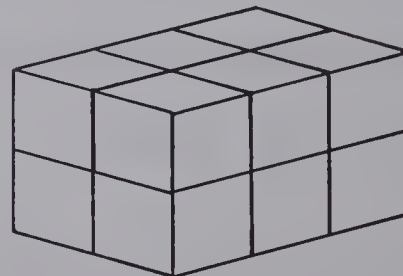
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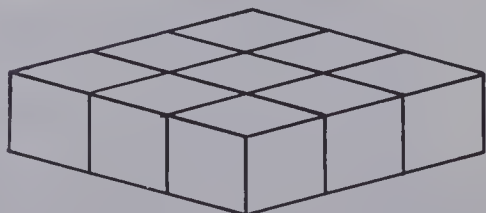
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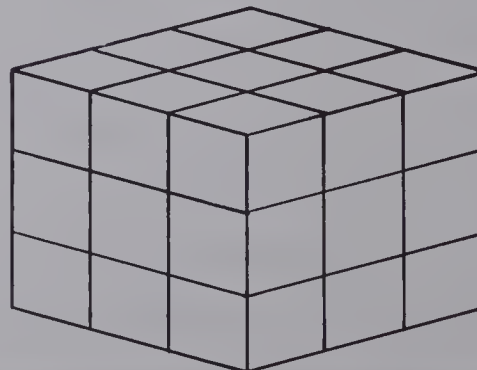
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5.



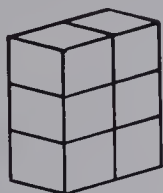
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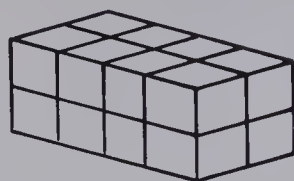
# PRACTICE

What is the volume of each solid?

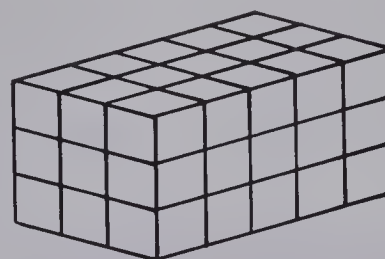
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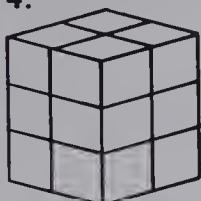
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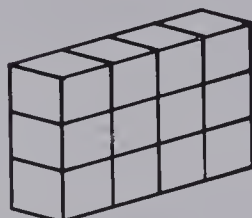
3.



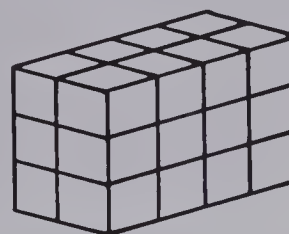
4.



5.



6.



Multiply.

7.  $2 \times 4 \times 2$

8.  $3 \times 3 \times 2$

9.  $3 \times 4 \times 2$

10.  $2 \times 5 \times 3$

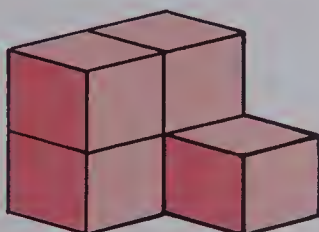
11.  $3 \times 6 \times 3$

12.  $4 \times 5 \times 4$

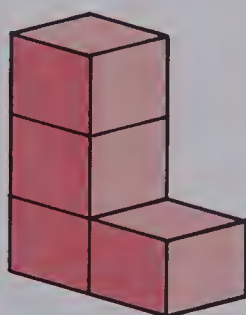
## How Many?

How many cubes are in each set? Count carefully!

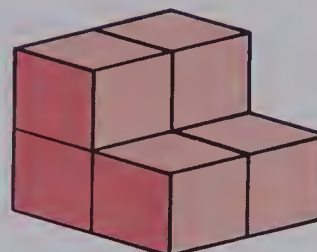
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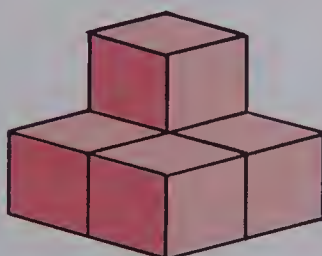
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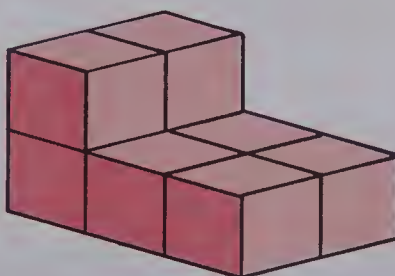
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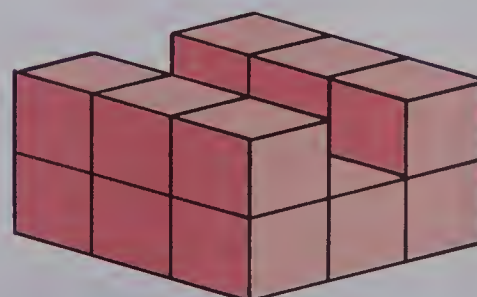
D.



E.



F.

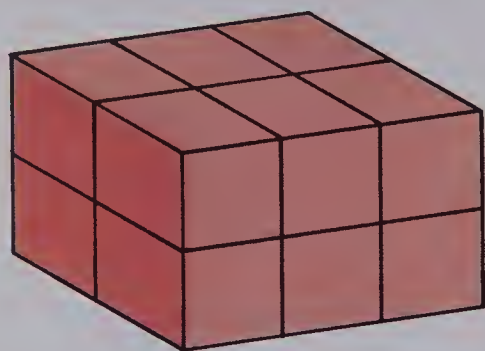
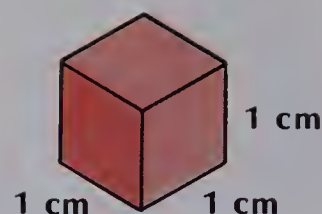




# Volume

A cube 1 cm long, 1 cm wide, and 1 cm high has a volume of one **cubic centimetre** ( $\text{cm}^3$ ).

Small volumes are measured in cubic centimetres.



$$3 \times 2 \times 2 = 12$$

12 cubic centimetres  
 $12 \text{ cm}^3$

Mr. Simpson wanted to find the volume of his van.  
He used a unit 1 m long, 1 m wide, and 1 m high.  
It is called a **cubic metre** ( $\text{m}^3$ ).

$$3 \times 5 \times 3 = 45$$

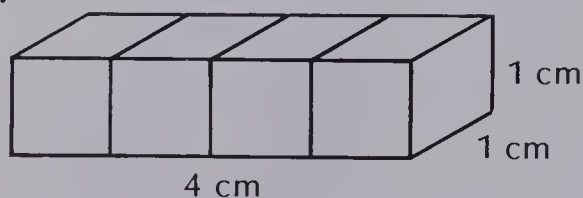
45 cubic metres  
 $45 \text{ m}^3$



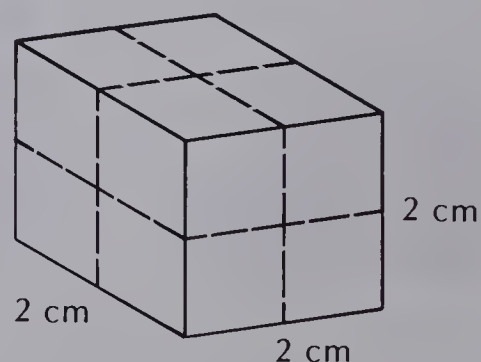
## EXERCISES

What is the volume?

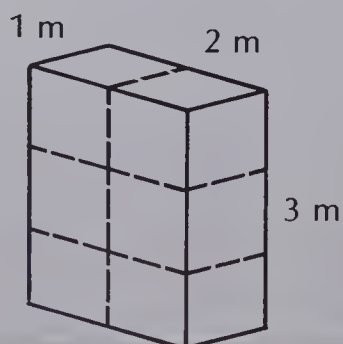
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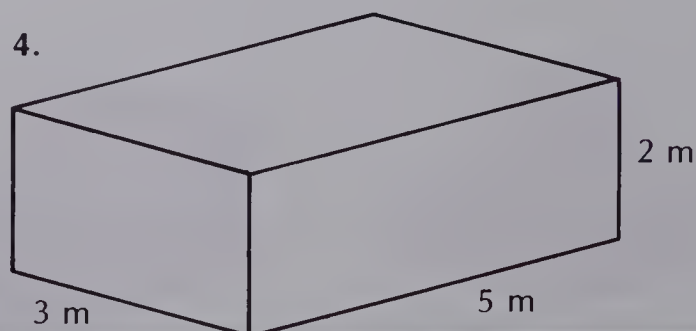
2.



3.

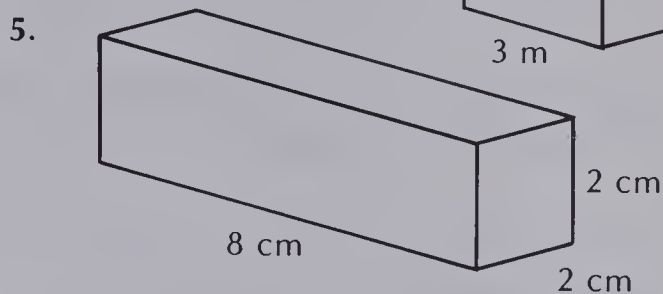
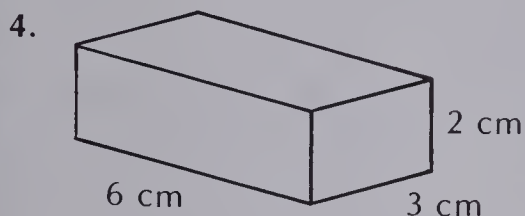
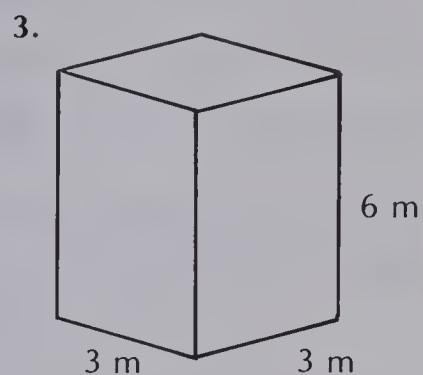
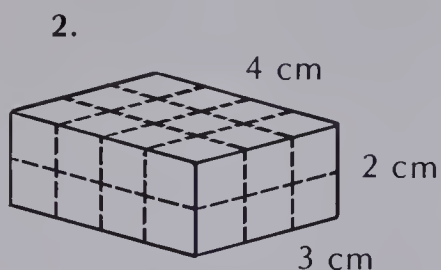
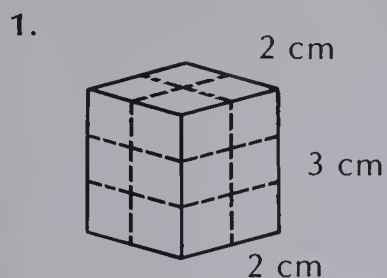


4.



# PRACTICE

What is the volume?



Would you use cubic metres or cubic centimetres to measure the following?

6. a truckload of gravel

7. the volume of a pencil box

# REVIEW

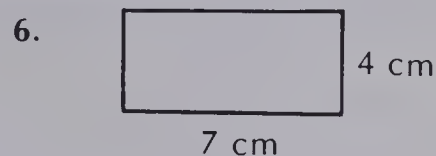
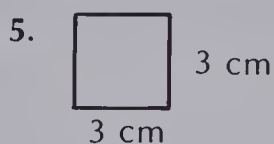
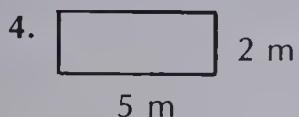
How many □s in each surface?

M14



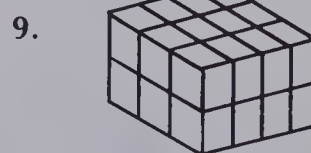
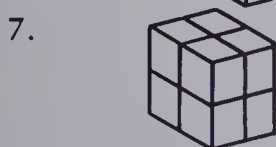
What is the area in square metres or square centimetres?

M15



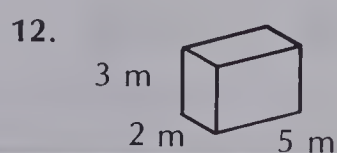
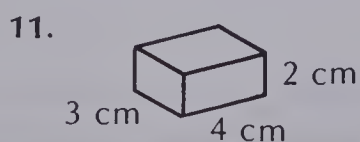
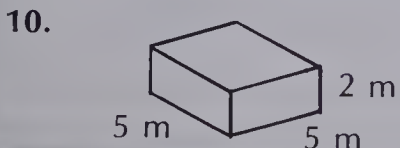
How many s in each solid?

M16



What is the volume?

M17



# Average

Tina kept a record of how long her homework took her. About how long did Tina spend on her homework each night?

Mon.	35 min
Tues.	50 min
Wed.	30 min
Thurs.	45 min

Find the **average** number of minutes.

Step 1. Add the numbers.

$$35 + 50 + 30 + 45 = 160$$

Step 2. Since 4 numbers were added, divide by 4.

$$160 \div 4 = 40$$

Answer. The average number of minutes Tina spent on homework was 40.

## EXERCISES

What is the average?

$$\begin{array}{r} 1. \text{ Age: } 2 \text{ years} \\ 4 \text{ years} \\ + 6 \text{ years} \\ \hline 12 \text{ years} \end{array}$$

$$12 \text{ years} \div 3 = \blacksquare$$

The average age is  $\blacksquare$ .

$$\begin{array}{r} 2. \text{ Length: } 3 \text{ cm} \\ 4 \text{ cm} \\ 6 \text{ cm} \\ + 7 \text{ cm} \\ \hline 20 \text{ cm} \end{array}$$

$$20 \text{ cm} \div 4 = \blacksquare$$

The average length is  $\blacksquare$ .

$$\begin{array}{r} 3. \text{ Mass: } 1 \text{ g} \\ 2 \text{ g} \\ 3 \text{ g} \\ 4 \text{ g} \\ + 5 \text{ g} \\ \hline \blacksquare \end{array}$$

$$\blacksquare \div 5 = \blacksquare$$

The average mass is  $\blacksquare$ .

$$\begin{array}{r} 4. \text{ Scores: } 60 \\ 75 \\ 80 \\ + 85 \\ \hline 300 \end{array}$$

$$300 \div \blacksquare = \blacksquare$$

The average score is  $\blacksquare$ .



# PRACTICE

What is the average?

1.

$$\begin{array}{r} 1 \\ 3 \\ 4 \\ + 8 \\ \hline \end{array}$$

$$\square \div \square = \square$$

The average is  $\square$ .

2.

$$\begin{array}{r} 3 \\ 4 \\ 6 \\ 7 \\ + 10 \\ \hline \end{array}$$

$$\square \div \square = \square$$

The average is  $\square$ .

3.

$$\begin{array}{r} 3 \\ 4 \\ 7 \\ + 10 \\ \hline \end{array}$$

$$\square \div \square = \square$$

The average is  $\square$ .

4.

$$\begin{array}{r} 4 \\ 5 \\ 7 \\ 8 \\ + 11 \\ \hline \end{array}$$

The average is  $\square$ .

5.

$$\begin{array}{r} 10 \\ 20 \\ 30 \\ 40 \\ + 50 \\ \hline \end{array}$$

The average is  $\square$ .

6.

$$\begin{array}{r} 80 \\ 95 \\ 75 \\ 95 \\ 100 \\ + 95 \\ \hline \end{array}$$

The average is  $\square$ .

7. Joe does chores for his family.  
What is the average length of  
time Joe works on school days?

Mon.	Tues.	Wed.	Thurs.	Fri.
60 min	30 min	45 min	90 min	45 min

## Paper Calculators

1. Cut 4 strips of paper these lengths: 58 cm, 72 cm, 36 cm, and 22 cm. Show that the average length is 47 cm:

a. Tape the 4 strips end to end.



b. Fold the new strip in half. Fold it in half again.

c. Measure the length of the folded strip.

d. Explain why its length is 47 cm.

2. Find the average height of 8 students by using a *paper calculator*.

# Ratio

Pauline baked cookies for supper. She wanted to put enough on the plate so that there were 3 cookies for each person.



The **ratio** of cookies to people is 3 to 1.

3 cookies for 1 person.

6 cookies for 2 people.

9 cookies for 3 people.

How many cookies for 5 people?

$$5 \times 3 = 15$$

15 cookies for 5 people.

## EXERCISES

What is the ratio?

1. There are 2 scoops of ice cream for each child.  
The ratio is ■ to 1.
2. There are 4 meatballs for each person.  
The ratio is ■ to 1.
3. There is 1 chair for each person.  
The ratio is ■ to 1.
4. 3 balloons cost 10¢.  
The ratio of balloons to cents is ■ to 10.
5. On a school trip there were 2 adults for every 9 children. The ratio of adults to children was ■ to 9.

How many are needed?

6. 2 hamburgers **per** person. 5 people.
7. 1 party hat **per** person. 6 people.
8. 3 prizes **per** person. 4 people.

## PRACTICE

Complete.

1. The ratio of fingers to hands is ■ to ■.
2. The ratio of hands to people is ■ to ■.
3. The ratio of eyes to people is ■ to ■.
4. The ratio of legs to people is ■ to ■.
5. The ratio of toes to people is ■ to ■.
6. The ratio of noses to people is ■ to ■.
7. Copy and complete the chart.

Number of people	1	2	3	5	8	10	12
Cost of show tickets	50¢	\$1.00					

Solve.

8. How much do 5 hamburgers cost?
9. How much do 6 milk shakes cost?
10. How much do 4 orders of fries cost?
11. How much do 3 soft drinks cost?

MENU	
Hamburgers	85¢
Milk shakes	80¢
Fries	50¢
Soft drinks	45¢

## Ratio Problem Charts

Copy and complete the charts.

A.

Number of students	1	2	3	5	8	10	12
Cost of tickets	25¢	50¢					

B.

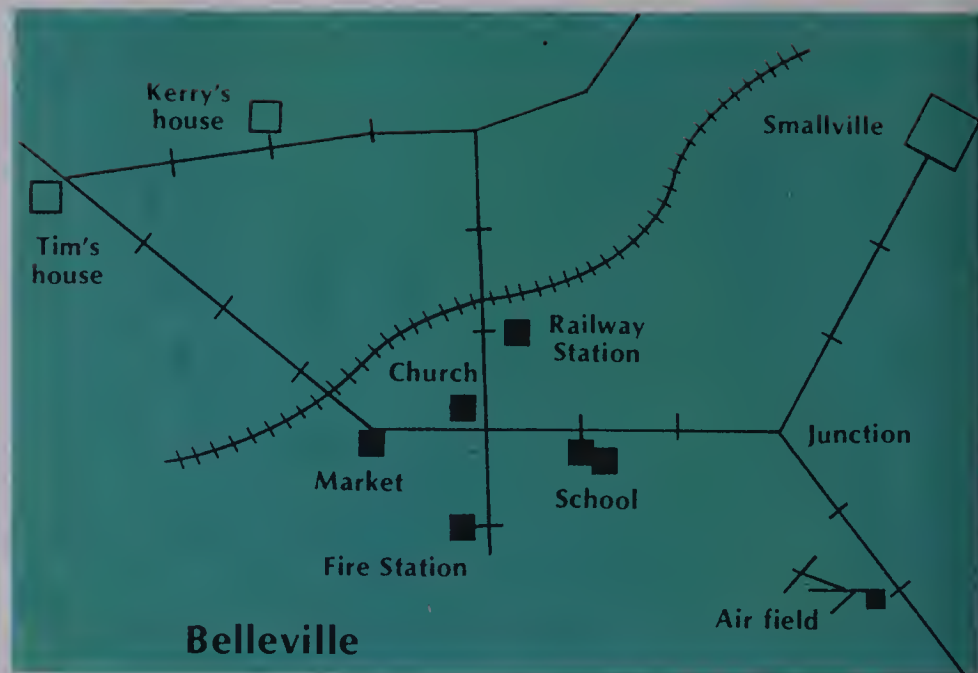
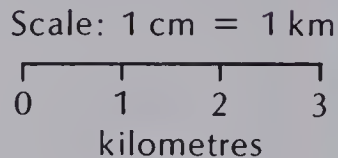
Number of students	3	6	12	15	18	21	24
Pizzas needed	2	4					



# Map Scale

1 cm on this map represents 1 km in Belleville.

The **scale** is 1 cm = 1 km.



On the map, it is 2 cm from Tim's house to Kerry's house. This means that the real distance is 2 km.

## EXERCISES

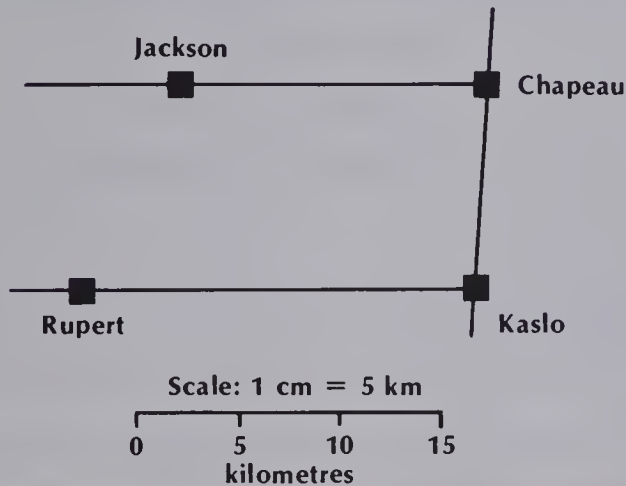
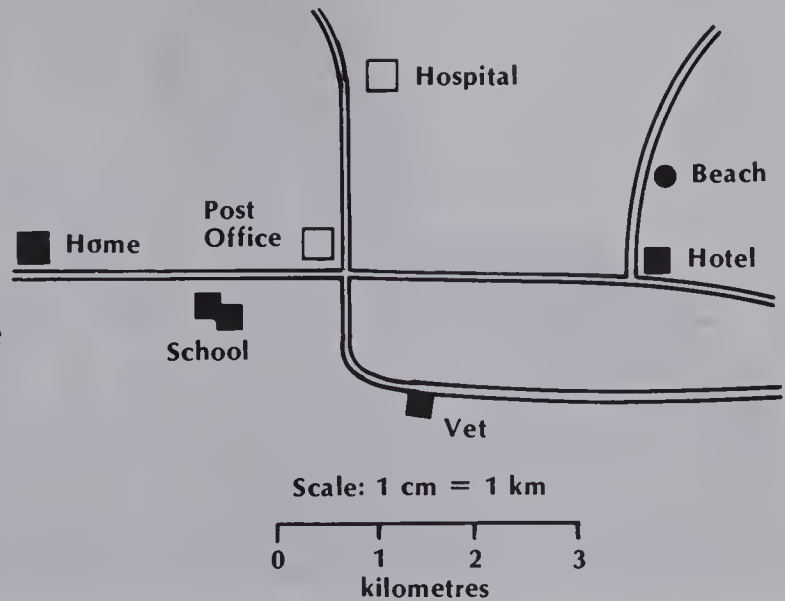
Use a ruler and the scale to find the distance from:

1. Tim's house to the market
  2. the market to the church
  3. the railway station to the fire station
  4. the market to the school
  5. Tim's house to school
  6. the school to the Junction
  7. the Junction to Smallville
  8. the school to Smallville.
9. Which is farther — the distance from Tim's house to the railway station or to the air field?  
How much farther?

## PRACTICE

Use a ruler and the scale to find the distance:

1. from the beach to the hotel
2. from home to school
3. from home to the post office
4. from the post office to the hospital
5. from home to the vet.



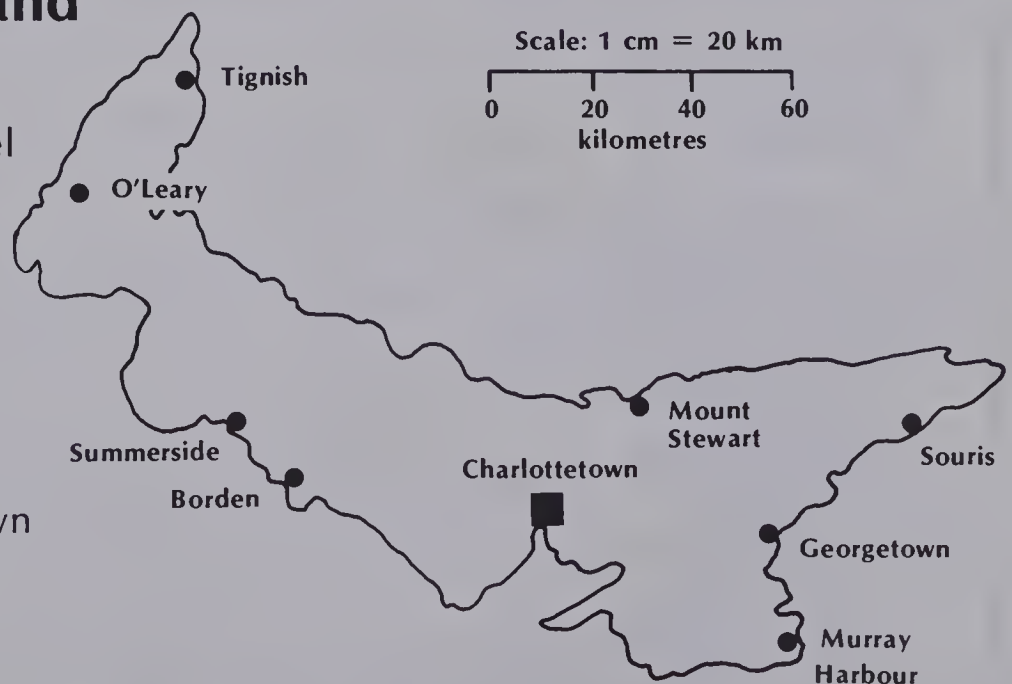
Use a ruler and the scale to find the distance:

6. from Jackson to Chapeau
7. from Chapeau to Kaslo
8. from Kaslo to Rupert
9. from Chapeau to Rupert
10. from Jackson to Kaslo.

## Prince Edward Island

Suppose you had a helicopter and could travel in a straight line. What is the distance between the following places:

1. Charlottetown and Souris
2. Souris and Georgetown
3. Murray Harbour and Tignish
4. Borden and Mount Stewart



# Time



1 **minute** is 60 seconds.

1 **hour** is 60 minutes.

1 **day** is 24 hours.

1 **week** is 7 days.

1 **year** is 52 weeks.

1 **year** is 12 months.

## EXERCISES

Copy and complete.

1. There are ■ months in 1 year.
2. There are ■ days in 1 week.
3. There are ■ weeks in 1 year.
4. There are ■ hours in 1 day.
5. There are ■ minutes in 1 hour.
6. There are ■ seconds in 1 minute.
7. There are ■ days in 3 weeks.
8. There are ■ hours in 2 days.
9. There are ■ minutes in 2 hours.
10. There are ■ seconds in 3 minutes.
11. There are ■ months in 3 years.



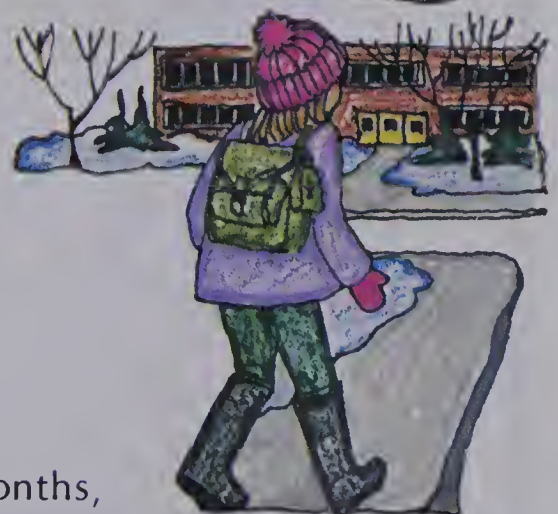
## PRACTICE

Copy and complete.

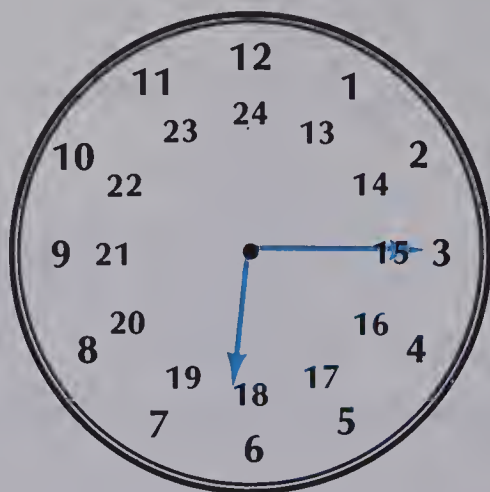
1. 24 months is ■ years.
2. There are ■ seconds in 1 minute.
3. There are ■ minutes in 2 hours.
4. 14 days is ■ weeks.
5. ■ days is 3 weeks.
6. There are ■ seconds in 1 hour.
7. 180 minutes is ■ hours.
8. 28 days is ■ weeks.

## Time for Problems

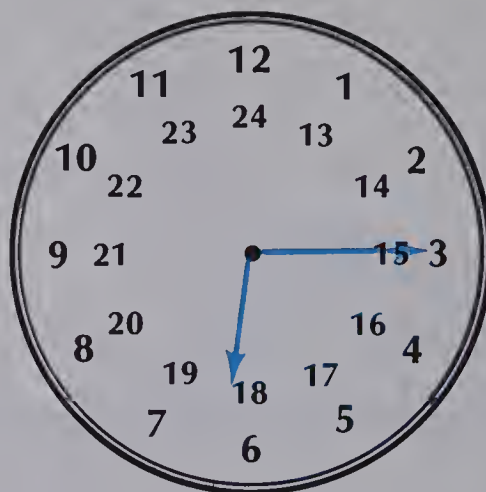
1. Lou sleeps 8 hours a night. How many hours is he awake?
2. Baby Laura is 8 months old. How many months until the baby's next birthday?
3. The time is thirty-five minutes after three. How many minutes before four is it?
4. A TV commercial lasted a minute and a half. How many seconds is this?
5. Today is Tuesday the ninth. What is the date two weeks from now?
6. Dean watched TV for 55 min, then he read for 55 min. How long is this in hours and minutes?
7. School starts at 9:00 A.M. It takes Ida 20 min to walk to school. If she starts at 8:45 A.M., will she be on time?
8. List the summer months, fall months, winter months, and spring months.



# The 24 Hour Clock



morning  
**06:15**



afternoon or evening  
**18:15**

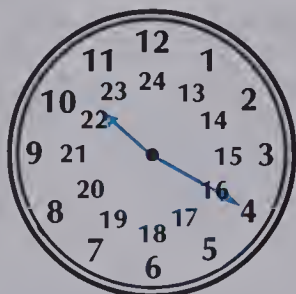
Use the **outer** circle of numbers.

Use the **inner** circle of numbers.

## EXERCISES

Write the time for each clock.

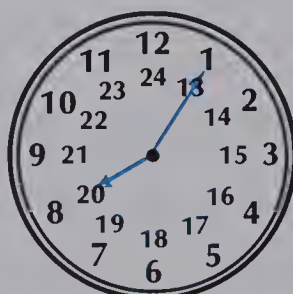
1.



morning

■ ■ : ■ ■

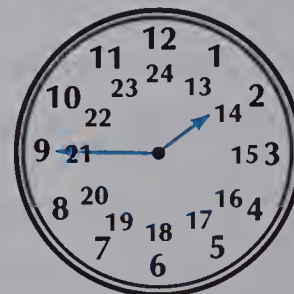
2.



morning

■ ■ : ■ ■

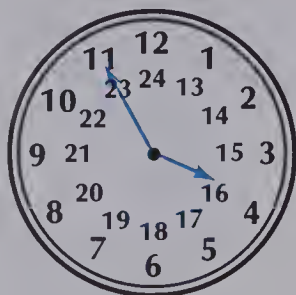
3.



morning

■ ■ : ■ ■

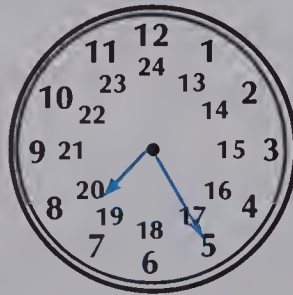
4.



afternoon

■ ■ : ■ ■

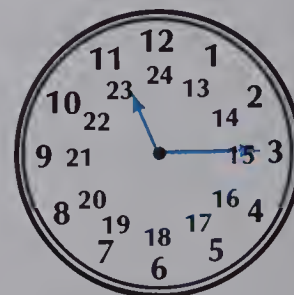
5.



evening

■ ■ : ■ ■

6.



late evening

■ ■ : ■ ■

## PRACTICE

Is it a morning time, an afternoon time, or an evening time?

- |          |          |          |          |           |
|----------|----------|----------|----------|-----------|
| 1. 07:00 | 2. 11:15 | 3. 14:10 | 4. 16:08 | 5. 21:00  |
| 6. 06:32 | 7. 04:25 | 8. 18:05 | 9. 24:00 | 10. 19:50 |

Match.

- |                    |          |
|--------------------|----------|
| 11. Sunrise        | A. 09:00 |
| 12. Get up         | B. 12:00 |
| 13. Breakfast      | C. 05:45 |
| 14. School starts  | D. 08:00 |
| 15. Morning recess | E. 18:00 |
| 16. Noon           | F. 07:45 |
| 17. School ends    | G. 20:30 |
| 18. Suppertime     | H. 15:30 |
| 19. Bedtime        | I. 10:15 |

Give the time on a 24 hour clock.

20. Pauline ate breakfast at 7 o'clock.
21. Dorothy went to bed at 9 o'clock in the evening.
22. Lunch was finished at 1 o'clock.
23. Supper is at 7 o'clock.

## Time Differences

Study the subtraction example carefully.  
Then tell how long each job lasts.

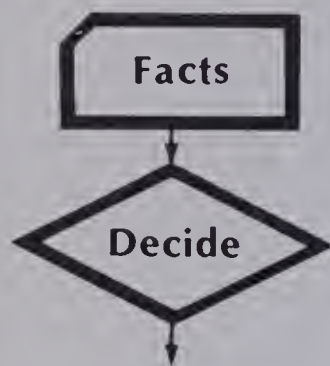
1. Ivan begins work at 10:20 and stops at 16:50.
2. Rita's work ends at 17:00. It starts at 08:30.
3. Paul works from 05:25 until 12:50.
4. Nan finishes at 06:30. She begins at 02:45.

$$\begin{array}{r}
 9\ 75 \\
 10:15 \\
 - 03:30 \\
 \hline
 6\ \text{h}\ 45\ \text{min}
 \end{array}$$



# Missing Information

Mr. Kaszmarek is packing containers of strawberries on a shelf in the freezer. The shelf space is 6 containers long and 2 containers high. How many containers of strawberries can he fit in the space?



6 containers long  
2 containers high

To find how many will fit,  
multiply **length**  $\times$  **width**  $\times$  **height**.

But we don't know the width.  
Information is **missing**.

Suppose the shelf space is 3 containers wide.

Now, you can finish the problem.

$$6 \times 3 \times 2 = 36 \text{ (containers)}$$

## EXERCISES

Some problems below do not have enough information.  
Supply a fact where needed and solve the problem.

1. A set of dishes has dinner plates, lunch plates, and dessert plates. What is the total number of plates?
2. A rectangular room has a side 4 m long. What is the area?
3. How much do three 2 L containers of milk cost?
4. What is the total cost of \$22 worth of strawberries and \$2 worth of sugar?
5. Jan shovelled 3 driveways. The first took 4 hours, the second 2 hours, and the third still less time. Find the average time it took her to shovel a driveway.

## PRACTICE

For each problem, supply a fact, then solve the problem.

1. A roll of sod will cover about one square metre of earth. Ms Peters wants to put new sod on her lawn which is 8 m long. How many rolls does she need?
2. The deep end of the Romanov's pool is 5 m wide and 7 m long. How many cubic metres of water does it contain?
3. Mr. Reagan is painting a bedroom. He has 3 cans of paint. The paint in each can will cover about 26 m<sup>2</sup>. Does he have enough paint?
4. Jon is going to make the beds. The ratio of sheets to beds is 2 to 1. How many sheets does Jon need?

## REVIEW

A55

What is the average?

1. Years: 3, 6, and 9
2. Cents: 10, 14, 15, and 21

A56

The cost of sandwiches is 70¢ per sandwich.

3. How much would 3 sandwiches cost?
4. How much would 8 sandwiches cost?

M18

The scale on a map is 1 cm = 10 km.

5. How many kilometres do 3 cm on the map represent?
6. How many kilometres do 6 cm on the map represent?

M19

7. How many days are there in 2 weeks?
8. How many weeks are there in a year?
9. How many hours is it from 11:00 P.M. to 2:00 A.M.?

M20

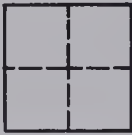
10. What time would school be over, 15:30 or 18:30?
11. What time would most children go to bed, 17:30 or 20:30?

# TEST

# UNIT 10

What is the area of each surface?

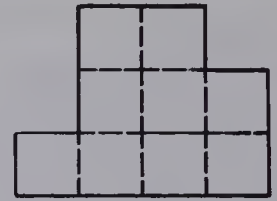
1.



2.

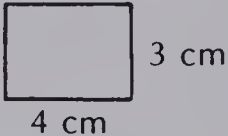


3.

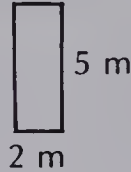


What is the area in square centimetres or square metres?

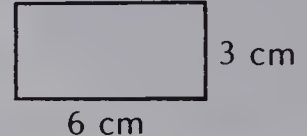
4.



5.

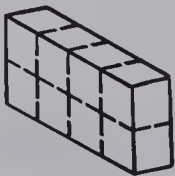


6.

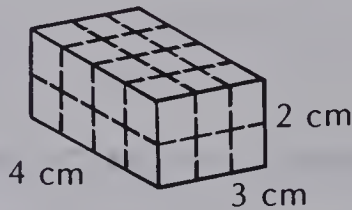


What is the volume?

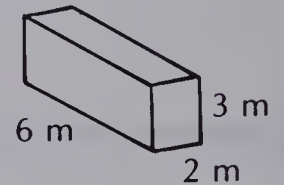
7.



8.



9.



What is the average?

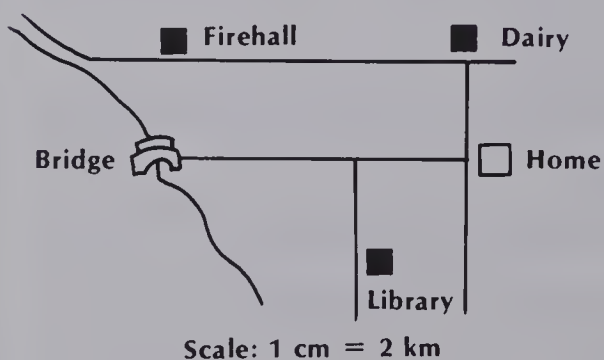
$$\begin{array}{r} 10. \quad 3 \text{ min} \\ \quad 5 \text{ min} \\ + 10 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 4 \text{ g} \\ \quad 6 \text{ g} \\ \quad 8 \text{ g} \\ + 10 \text{ g} \\ \hline \end{array}$$

Copy and complete.

12. The ratio of arms to noses is ■ to ■.

13. The ratio of hours to days is ■ to ■.



14. How far is it from the dairy to home?

15. How far is it from the firehall to the dairy?

16. How far is it from the bridge to the library? (Follow the road.)

Solve.

17. How many minutes are there in an hour?

18. How many days are there in 4 weeks?

19. Hank goes to bed at 9 o'clock.

What time is this on the 24 hour clock?



## DIVISION

Divide.

- |                         |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 1. $4 \overline{)24}$   | 2. $7 \overline{)42}$   | 3. $5 \overline{)35}$   | 4. $9 \overline{)72}$   | 5. $8 \overline{)64}$   |
| 6. $4 \overline{)9}$    | 7. $8 \overline{)66}$   | 8. $5 \overline{)8}$    | 9. $6 \overline{)38}$   | 10. $3 \overline{)25}$  |
| 11. $3 \overline{)30}$  | 12. $6 \overline{)540}$ | 13. $4 \overline{)80}$  | 14. $9 \overline{)810}$ | 15. $5 \overline{)150}$ |
| 16. $2 \overline{)64}$  | 17. $3 \overline{)93}$  | 18. $4 \overline{)48}$  | 19. $5 \overline{)50}$  | 20. $8 \overline{)88}$  |
| 21. $2 \overline{)56}$  | 22. $3 \overline{)72}$  | 23. $4 \overline{)64}$  | 24. $5 \overline{)75}$  | 25. $6 \overline{)78}$  |
| 26. $3 \overline{)67}$  | 27. $7 \overline{)85}$  | 28. $4 \overline{)51}$  | 29. $5 \overline{)72}$  | 30. $8 \overline{)98}$  |
| 31. $5 \overline{)255}$ | 32. $6 \overline{)426}$ | 33. $4 \overline{)288}$ | 34. $7 \overline{)427}$ | 35. $2 \overline{)126}$ |
| 36. $3 \overline{)165}$ | 37. $8 \overline{)672}$ | 38. $9 \overline{)846}$ | 39. $5 \overline{)375}$ | 40. $4 \overline{)192}$ |
| 41. $7 \overline{)444}$ | 42. $2 \overline{)113}$ | 43. $9 \overline{)479}$ | 44. $3 \overline{)170}$ | 45. $4 \overline{)311}$ |

Solve.

46. Best Bakery is open 6 days a week. In one week they are open 72 hours. They are open the same number of hours each day. How many hours are they open each day?
47. A bakery sold 8 wedding cakes of the same size for \$648. How much did each wedding cake cost?
48. The Cookie Shop uses 570 g of raisins in 6 batches of cookies. How many grams of raisins should be in each batch?



# UNIT 11

## MULTIPLICATION & DIVISION

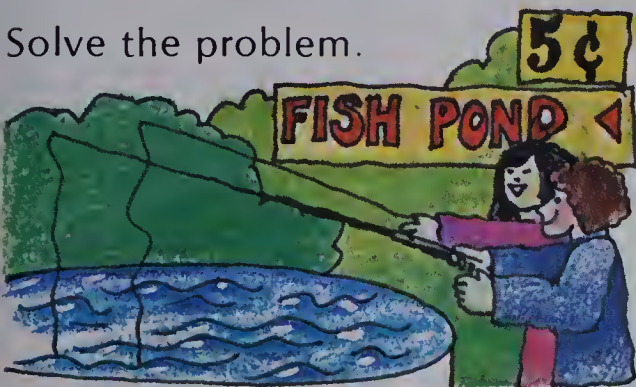




# Picnic

Read the information and the multiplication or division question.  
What question is being asked in each problem?

Solve the problem.



120 children fishing      120  
5¢ each                       $\times 5$



8 laps                      125  
125 m each               $\times 8$



112 g each.              112  
Lou ate 3.                 $\times 3$



**TRIPLE-SCOOP  
DELUXE!**

186 scoops of ice cream  
3 scoops for each cone

$3 \overline{)186}$



275 m of crepe paper       $5 \overline{)275}$   
5 m to each



252 m relay               $3 \overline{)252}$   
3 runners



# Multiples of Ten

Burlington is having a field day and picnic. The organizers want pennants to be given out to the spectators. They ordered 40 boxes of 16 pennants each. How many pennants will there be?

Write the question.

$$\begin{array}{r} 16 \\ \times 40 \\ \hline \end{array}$$

Multiply  
 $0 \times 16$ .

$$\begin{array}{r} 16 \\ \times 40 \\ \hline 0 \end{array}$$

Multiply  
4 tens  $\times 16$ .

$$\begin{array}{r} 16 \\ \times 40 \\ \hline 640 \end{array}$$

$$\begin{array}{r} 16 \\ \times 40 \\ \hline 640 \end{array}$$

There will be 640 pennants to give out.



## EXERCISES

Multiply.

1.  $\begin{array}{r} 14 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 14 \\ \times 20 \\ \hline \end{array}$

3.  $\begin{array}{r} 42 \\ \times 3 \\ \hline \end{array}$

4.  $\begin{array}{r} 42 \\ \times 30 \\ \hline \end{array}$

5.  $\begin{array}{r} 61 \\ \times 4 \\ \hline \end{array}$

6.  $\begin{array}{r} 61 \\ \times 40 \\ \hline \end{array}$

7.  $\begin{array}{r} 35 \\ \times 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 35 \\ \times 30 \\ \hline \end{array}$

9.  $\begin{array}{r} 27 \\ \times 4 \\ \hline \end{array}$

10.  $\begin{array}{r} 27 \\ \times 40 \\ \hline \end{array}$

11.  $\begin{array}{r} 32 \\ \times 20 \\ \hline \end{array}$

12.  $\begin{array}{r} 71 \\ \times 60 \\ \hline \end{array}$

13.  $\begin{array}{r} 83 \\ \times 30 \\ \hline \end{array}$

14.  $\begin{array}{r} 92 \\ \times 40 \\ \hline \end{array}$

15.  $\begin{array}{r} 54 \\ \times 20 \\ \hline \end{array}$

16.  $\begin{array}{r} 55 \\ \times 30 \\ \hline \end{array}$

17.  $\begin{array}{r} 26 \\ \times 60 \\ \hline \end{array}$

18.  $\begin{array}{r} 38 \\ \times 50 \\ \hline \end{array}$

19.  $\begin{array}{r} 47 \\ \times 40 \\ \hline \end{array}$

20.  $\begin{array}{r} 68 \\ \times 70 \\ \hline \end{array}$

## PRACTICE

Multiply.

$$\begin{array}{r} 1. \quad 12 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 41 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 32 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 43 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 76 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 11 \\ \times 60 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 52 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 43 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 61 \\ \times 50 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 32 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 16 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 27 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 35 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 43 \\ \times 50 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 50 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 47 \\ \times 60 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 68 \\ \times 70 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 75 \\ \times 80 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 59 \\ \times 70 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 87 \\ \times 90 \\ \hline \end{array}$$

Solve.

21. Some people are making old-fashioned costumes for the event. Leon's Fabric Store ordered 20 bolts of cloth they could use. There are 25 m of cloth on each bolt. How many metres of cloth were ordered?
22. In the morning, there will be a parade. The organizers will give out 80 rolls of crepe paper to decorate bikes. Each roll has 12 m of crepe paper. How many metres of crepe paper will be given out?
23. The grandstand for viewing the events has a section with 15 rows, 20 seats in a row. How many people will that section seat?

## Consumer Problem

One litre of ice cream serves 4 people. How many people can be served from 20 four-litre containers?



# Multiplying with Two Digits

The teenagers are having a lemonade stand at the Burlington picnic. They bought enough lemons to make 24 batches of lemonade. Each batch makes 36 cups. How many cups of lemonade do they plan to sell?



Write the question.

Multiply  
 $4 \times 36$ .

Multiply  
2 tens  $\times 36$ . Add.

$$\begin{array}{r} 36 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ \times 24 \\ \hline 144 \end{array}$$

$$\begin{array}{r} 36 \\ \times 24 \\ \hline 144 \\ 720 \end{array}$$

$$\begin{array}{r} 36 \\ \times 24 \\ \hline 144 \\ 720 \\ \hline 864 \end{array}$$

$$\begin{array}{r} 36 \\ \times 24 \\ \hline 144 \\ 720 \\ \hline 864 \end{array}$$

They plan to sell 864 cups of lemonade.

## EXERCISES

Multiply.

1.  $\begin{array}{r} 32 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 32 \\ \times 10 \\ \hline \end{array}$

3.  $\begin{array}{r} 32 \\ \times 12 \\ \hline \end{array}$

4.  $\begin{array}{r} 21 \\ \times 2 \\ \hline \end{array}$

5.  $\begin{array}{r} 21 \\ \times 40 \\ \hline \end{array}$

6.  $\begin{array}{r} 21 \\ \times 42 \\ \hline \end{array}$

7.  $\begin{array}{r} 42 \\ \times 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 42 \\ \times 50 \\ \hline \end{array}$

9.  $\begin{array}{r} 42 \\ \times 53 \\ \hline \end{array}$

10.  $\begin{array}{r} 37 \\ \times 3 \\ \hline \end{array}$

11.  $\begin{array}{r} 37 \\ \times 10 \\ \hline \end{array}$

12.  $\begin{array}{r} 37 \\ \times 13 \\ \hline \end{array}$

13.  $\begin{array}{r} 86 \\ \times 4 \\ \hline \end{array}$

14.  $\begin{array}{r} 86 \\ \times 50 \\ \hline \end{array}$

15.  $\begin{array}{r} 86 \\ \times 54 \\ \hline \end{array}$

16.  $\begin{array}{r} 28 \\ \times 45 \\ \hline \end{array}$

17.  $\begin{array}{r} 36 \\ \times 61 \\ \hline \end{array}$

18.  $\begin{array}{r} 92 \\ \times 18 \\ \hline \end{array}$

19.  $\begin{array}{r} 45 \\ \times 25 \\ \hline \end{array}$

20.  $\begin{array}{r} 74 \\ \times 38 \\ \hline \end{array}$



## PRACTICE

Multiply.

$$\begin{array}{r} 1. \quad 14 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 23 \\ \times 33 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 61 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 42 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 20 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 41 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 62 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 52 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 32 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 70 \\ \times 45 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 25 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 36 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 18 \\ \times 36 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 29 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 45 \\ \times 27 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 58 \\ \times 67 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 74 \\ \times 84 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 49 \\ \times 93 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 97 \\ \times 75 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 78 \\ \times 68 \\ \hline \end{array}$$

Solve.

21. Swimming races were held in a pool which is 18 m long. In one race the contestants swam 24 lengths of the pool. How far did each contestant swim? Is this more or less than a kilometre?
22. There were 36 cups in each batch of lemonade. It was sold for 25¢ a cup. How much money was taken in for each batch of lemonade?
23. In Problem 22, 4 cups of lemonade cost \$1.00. How does this fact make the problem easier to solve?

## Hot Potato!

The course for the potato race is 25 m long. Each player must run to the goal, scoop up a potato, and bring it back to the start. The first player to bring back 12 potatoes wins. How far does the winning player run?



# Multiples of Ten



Some of the Burlington picnic will be held on an island.

The ferry to the island can carry 174 passengers.

How many passengers can it carry in 20 trips?

Write the question.

Multiply  
 $0 \times 174$ .

Multiply  
2 tens  $\times 174$ .

$$\begin{array}{r} 174 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 174 \\ \times 20 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 174 \\ \times 20 \\ \hline 3480 \end{array}$$

$$\begin{array}{r} 174 \\ \times 20 \\ \hline 3480 \end{array}$$

The ferry can carry 3480 passengers in 20 trips.

## EXERCISES

Multiply.

1.  $\begin{array}{r} 123 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 123 \\ \times 20 \\ \hline \end{array}$

3.  $\begin{array}{r} 124 \\ \times 20 \\ \hline \end{array}$

4.  $\begin{array}{r} 234 \\ \times 20 \\ \hline \end{array}$

5.  $\begin{array}{r} 234 \\ \times 10 \\ \hline \end{array}$

6.  $\begin{array}{r} 236 \\ \times 3 \\ \hline \end{array}$

7.  $\begin{array}{r} 236 \\ \times 30 \\ \hline \end{array}$

8.  $\begin{array}{r} 237 \\ \times 30 \\ \hline \end{array}$

9.  $\begin{array}{r} 317 \\ \times 20 \\ \hline \end{array}$

10.  $\begin{array}{r} 317 \\ \times 30 \\ \hline \end{array}$

11.  $\begin{array}{r} 245 \\ \times 4 \\ \hline \end{array}$

12.  $\begin{array}{r} 245 \\ \times 40 \\ \hline \end{array}$

13.  $\begin{array}{r} 248 \\ \times 40 \\ \hline \end{array}$

14.  $\begin{array}{r} 358 \\ \times 30 \\ \hline \end{array}$

15.  $\begin{array}{r} 358 \\ \times 40 \\ \hline \end{array}$

16.  $\begin{array}{r} 192 \\ \times 50 \\ \hline \end{array}$

17.  $\begin{array}{r} 328 \\ \times 70 \\ \hline \end{array}$

18.  $\begin{array}{r} 271 \\ \times 60 \\ \hline \end{array}$

19.  $\begin{array}{r} 536 \\ \times 80 \\ \hline \end{array}$

20.  $\begin{array}{r} 950 \\ \times 90 \\ \hline \end{array}$

# PRACTICE

Multiply.

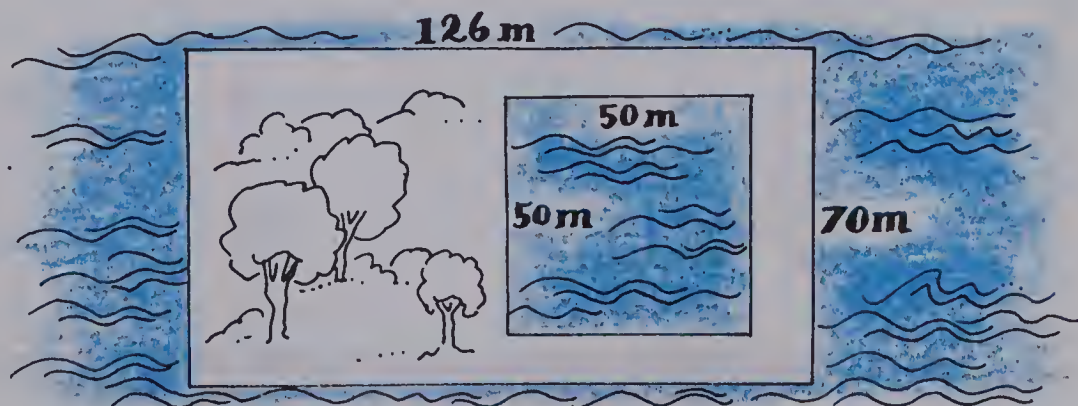
- |   |   |   |   |   |
|---|---|---|---|---|
| 1. $\begin{array}{r} 432 \\ \times 20 \\ \hline \end{array}$  | 2. $\begin{array}{r} 302 \\ \times 30 \\ \hline \end{array}$  | 3. $\begin{array}{r} 514 \\ \times 20 \\ \hline \end{array}$  | 4. $\begin{array}{r} 620 \\ \times 40 \\ \hline \end{array}$  | 5. $\begin{array}{r} 623 \\ \times 30 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 146 \\ \times 20 \\ \hline \end{array}$  | 7. $\begin{array}{r} 125 \\ \times 30 \\ \hline \end{array}$  | 8. $\begin{array}{r} 413 \\ \times 40 \\ \hline \end{array}$  | 9. $\begin{array}{r} 504 \\ \times 50 \\ \hline \end{array}$  | 10. $\begin{array}{r} 627 \\ \times 30 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 157 \\ \times 20 \\ \hline \end{array}$ | 12. $\begin{array}{r} 248 \\ \times 30 \\ \hline \end{array}$ | 13. $\begin{array}{r} 345 \\ \times 40 \\ \hline \end{array}$ | 14. $\begin{array}{r} 463 \\ \times 50 \\ \hline \end{array}$ | 15. $\begin{array}{r} 538 \\ \times 40 \\ \hline \end{array}$ |
| 16. $\begin{array}{r} 567 \\ \times 60 \\ \hline \end{array}$ | 17. $\begin{array}{r} 678 \\ \times 70 \\ \hline \end{array}$ | 18. $\begin{array}{r} 789 \\ \times 80 \\ \hline \end{array}$ | 19. $\begin{array}{r} 876 \\ \times 90 \\ \hline \end{array}$ | 20. $\begin{array}{r} 965 \\ \times 80 \\ \hline \end{array}$ |

Solve.

21. In one of the track events, each runner had to go around the 200 m track 20 times. How many metres is this altogether? Was this more or less than a kilometre?
22. The committee had 144 surprise bags made up for the tiny tots. Each bag cost 50¢. How much did the committee pay for the surprise bags?
23. In Problem 22, 2 bags cost \$1.00. How does this fact simplify the problem?

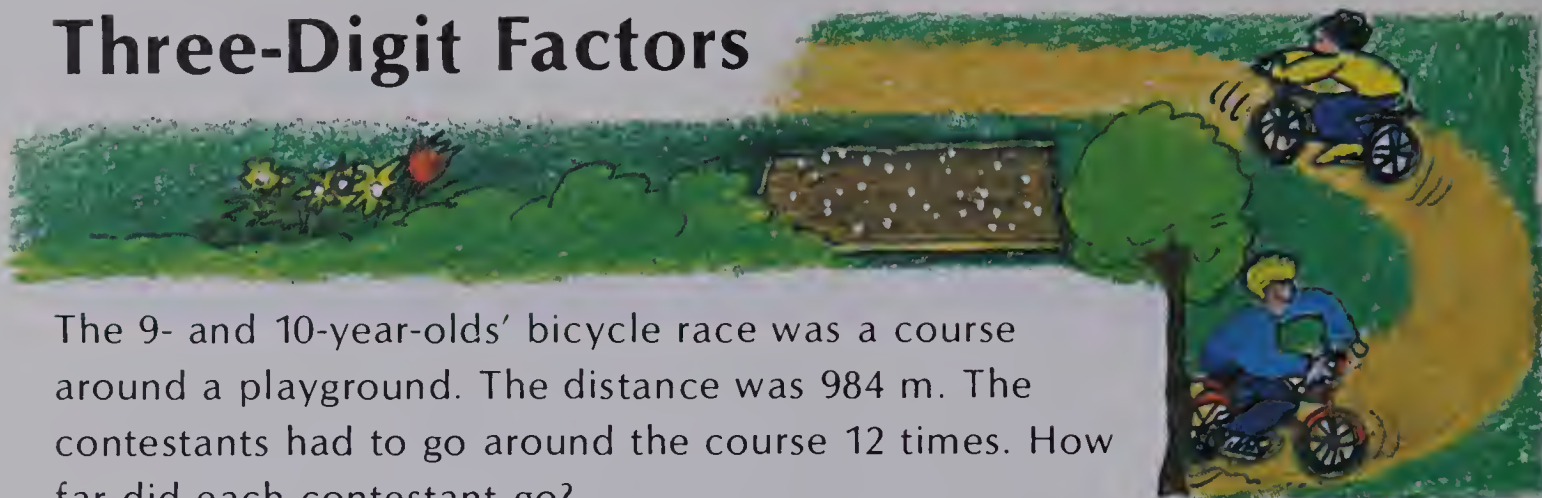
## Island Land

Find the area of the land parts of the island.





# Three-Digit Factors



The 9- and 10-year-olds' bicycle race was a course around a playground. The distance was 984 m. The contestants had to go around the course 12 times. How far did each contestant go?

Write the question.

Multiply  
 $2 \times 984$ .

Multiply  
1 ten  $\times 984$ .

Add.

$$\begin{array}{r} 984 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 984 \\ \times 12 \\ \hline 1968 \end{array}$$

$$\begin{array}{r} 984 \\ \times 12 \\ \hline 1968 \\ 9840 \end{array}$$

$$\begin{array}{r} 984 \\ \times 12 \\ \hline 1968 \\ 9840 \\ \hline 11808 \end{array}$$

$$\begin{array}{r} 984 \\ \times 12 \\ \hline 1968 \\ 9840 \\ \hline 11808 \end{array}$$

Each contestant went 11 808 m.

## EXERCISES

Multiply.

1.  $\begin{array}{r} 423 \\ \times 3 \\ \hline \end{array}$

2.  $\begin{array}{r} 423 \\ \times 20 \\ \hline \end{array}$

3.  $\begin{array}{r} 423 \\ \times 23 \\ \hline \end{array}$

4.  $\begin{array}{r} 216 \\ \times 4 \\ \hline \end{array}$

5.  $\begin{array}{r} 216 \\ \times 30 \\ \hline \end{array}$

6.  $\begin{array}{r} 216 \\ \times 34 \\ \hline \end{array}$

7.  $\begin{array}{r} 543 \\ \times 5 \\ \hline \end{array}$

8.  $\begin{array}{r} 543 \\ \times 40 \\ \hline \end{array}$

9.  $\begin{array}{r} 543 \\ \times 45 \\ \hline \end{array}$

10.  $\begin{array}{r} 617 \\ \times 2 \\ \hline \end{array}$

11.  $\begin{array}{r} 617 \\ \times 60 \\ \hline \end{array}$

12.  $\begin{array}{r} 617 \\ \times 62 \\ \hline \end{array}$

13.  $\begin{array}{r} 396 \\ \times 8 \\ \hline \end{array}$

14.  $\begin{array}{r} 396 \\ \times 50 \\ \hline \end{array}$

15.  $\begin{array}{r} 396 \\ \times 58 \\ \hline \end{array}$

16.  $\begin{array}{r} 129 \\ \times 47 \\ \hline \end{array}$

17.  $\begin{array}{r} 235 \\ \times 92 \\ \hline \end{array}$

18.  $\begin{array}{r} 834 \\ \times 83 \\ \hline \end{array}$

19.  $\begin{array}{r} 285 \\ \times 27 \\ \hline \end{array}$

20.  $\begin{array}{r} 494 \\ \times 74 \\ \hline \end{array}$

# PRACTICE

Multiply.

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. $\begin{array}{r} 132 \\ \times 21 \\ \hline \end{array}$  | 2. $\begin{array}{r} 302 \\ \times 32 \\ \hline \end{array}$  | 3. $\begin{array}{r} 421 \\ \times 43 \\ \hline \end{array}$  | 4. $\begin{array}{r} 530 \\ \times 52 \\ \hline \end{array}$  | 5. $\begin{array}{r} 543 \\ \times 12 \\ \hline \end{array}$  |
| 6. $\begin{array}{r} 145 \\ \times 22 \\ \hline \end{array}$  | 7. $\begin{array}{r} 236 \\ \times 12 \\ \hline \end{array}$  | 8. $\begin{array}{r} 408 \\ \times 34 \\ \hline \end{array}$  | 9. $\begin{array}{r} 523 \\ \times 43 \\ \hline \end{array}$  | 10. $\begin{array}{r} 419 \\ \times 35 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 165 \\ \times 24 \\ \hline \end{array}$ | 12. $\begin{array}{r} 257 \\ \times 32 \\ \hline \end{array}$ | 13. $\begin{array}{r} 370 \\ \times 21 \\ \hline \end{array}$ | 14. $\begin{array}{r} 186 \\ \times 45 \\ \hline \end{array}$ | 15. $\begin{array}{r} 287 \\ \times 23 \\ \hline \end{array}$ |
| 16. $\begin{array}{r} 648 \\ \times 67 \\ \hline \end{array}$ | 17. $\begin{array}{r} 754 \\ \times 75 \\ \hline \end{array}$ | 18. $\begin{array}{r} 896 \\ \times 68 \\ \hline \end{array}$ | 19. $\begin{array}{r} 783 \\ \times 98 \\ \hline \end{array}$ | 20. $\begin{array}{r} 695 \\ \times 84 \\ \hline \end{array}$ |

Solve.

21. The picnic and field day cost the town \$18 per adult.  
About 775 adults attended. What was the total cost?

# REVIEW

Multiply.

- |     |   |   |   |   |   |
|-----|---|---|---|---|---|
| A57 | 1. $\begin{array}{r} 21 \\ \times 30 \\ \hline \end{array}$   | 2. $\begin{array}{r} 74 \\ \times 20 \\ \hline \end{array}$   | 3. $\begin{array}{r} 18 \\ \times 40 \\ \hline \end{array}$   | 4. $\begin{array}{r} 46 \\ \times 70 \\ \hline \end{array}$   | 5. $\begin{array}{r} 79 \\ \times 80 \\ \hline \end{array}$   |
| A58 | 6. $\begin{array}{r} 32 \\ \times 23 \\ \hline \end{array}$   | 7. $\begin{array}{r} 52 \\ \times 43 \\ \hline \end{array}$   | 8. $\begin{array}{r} 26 \\ \times 31 \\ \hline \end{array}$   | 9. $\begin{array}{r} 67 \\ \times 65 \\ \hline \end{array}$   | 10. $\begin{array}{r} 86 \\ \times 74 \\ \hline \end{array}$  |
| A59 | 11. $\begin{array}{r} 312 \\ \times 30 \\ \hline \end{array}$ | 12. $\begin{array}{r} 601 \\ \times 40 \\ \hline \end{array}$ | 13. $\begin{array}{r} 326 \\ \times 30 \\ \hline \end{array}$ | 14. $\begin{array}{r} 457 \\ \times 50 \\ \hline \end{array}$ | 15. $\begin{array}{r} 769 \\ \times 70 \\ \hline \end{array}$ |
| A60 | 16. $\begin{array}{r} 124 \\ \times 21 \\ \hline \end{array}$ | 17. $\begin{array}{r} 513 \\ \times 32 \\ \hline \end{array}$ | 18. $\begin{array}{r} 627 \\ \times 23 \\ \hline \end{array}$ | 19. $\begin{array}{r} 586 \\ \times 67 \\ \hline \end{array}$ | 20. $\begin{array}{r} 968 \\ \times 85 \\ \hline \end{array}$ |

# Three-Digit Dividends

For the scavenger hunt, the children worked in pairs: one older child with one younger child. In all, 248 children took part in the scavenger hunt. How many younger children went on the hunt?

Write the question.

$$2 \overline{)248}$$

Divide the hundreds.

$$\begin{array}{r} 1 \\ 2 \overline{)248} \\ \underline{-2} \\ 0 \end{array}$$

Divide the tens.

$$\begin{array}{r} 12 \\ 2 \overline{)248} \\ \underline{-2} \downarrow \\ 04 \\ \underline{-4} \\ 0 \end{array}$$

Divide the ones.

$$\begin{array}{r} 124 \\ 2 \overline{)248} \\ \underline{-2} \downarrow \\ 04 \\ \underline{-4} \downarrow \\ 08 \\ \underline{-8} \\ 0 \end{array}$$

Check:

$$\begin{array}{r} 124 \\ \times 2 \\ \hline 248 \end{array}$$

124 younger children went on the scavenger hunt.

## EXERCISES

Copy and complete each division.

1.  $\begin{array}{r} 12\blacksquare \\ 2 \overline{)246} \\ \underline{-2} \\ 04 \\ \underline{-4} \\ 06 \end{array}$

2.  $\begin{array}{r} 32\blacksquare \\ 3 \overline{)963} \\ \underline{-9} \\ 06 \\ \underline{-6} \\ 03 \end{array}$

3.  $\begin{array}{r} 12\blacksquare \\ 4 \overline{)484} \\ \underline{-4} \\ 08 \\ \underline{-8} \\ 04 \end{array}$

4.  $\begin{array}{r} 11\blacksquare \\ 5 \overline{)555} \\ \underline{-5} \\ 05 \\ \underline{-5} \\ 05 \end{array}$

5.  $\begin{array}{r} 11\blacksquare \\ 6 \overline{)666} \\ \underline{-6} \\ 06 \\ \underline{-6} \\ 06 \end{array}$

6.  $\begin{array}{r} 3\blacksquare\blacksquare \\ 2 \overline{)682} \\ \underline{-6} \\ 08 \end{array}$

7.  $\begin{array}{r} 4\blacksquare\blacksquare \\ 2 \overline{)864} \\ \underline{-8} \\ 06 \end{array}$

8.  $\begin{array}{r} 2\blacksquare\blacksquare \\ 3 \overline{)699} \\ \underline{-6} \\ 09 \end{array}$

9.  $\begin{array}{r} 2\blacksquare\blacksquare \\ 4 \overline{)844} \\ \underline{-8} \\ 04 \end{array}$

10.  $\begin{array}{r} 1\blacksquare\blacksquare \\ 7 \overline{)777} \\ \underline{-7} \\ 07 \end{array}$

11.  $2 \overline{)484}$

12.  $3 \overline{)396}$

13.  $3 \overline{)693}$

14.  $8 \overline{)888}$

15.  $9 \overline{)999}$



# PRACTICE

Divide.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 1. $2\overline{)222}$  | 2. $3\overline{)336}$  | 3. $4\overline{)488}$  | 4. $5\overline{)555}$  | 5. $6\overline{)666}$  |
| 6. $1\overline{)284}$  | 7. $2\overline{)426}$  | 8. $3\overline{)693}$  | 9. $4\overline{)844}$  | 10. $7\overline{)777}$ |
| 11. $8\overline{)888}$ | 12. $3\overline{)636}$ | 13. $3\overline{)669}$ | 14. $2\overline{)648}$ | 15. $4\overline{)484}$ |

Divide. Check your answer.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 16. $1\overline{)111}$ | 17. $2\overline{)422}$ | 18. $3\overline{)969}$ | 19. $2\overline{)846}$ | 20. $4\overline{)848}$ |
| 21. $2\overline{)646}$ | 22. $3\overline{)369}$ | 23. $4\overline{)444}$ | 24. $3\overline{)399}$ | 25. $2\overline{)882}$ |
| 26. $9\overline{)999}$ | 27. $3\overline{)993}$ | 28. $3\overline{)936}$ | 29. $2\overline{)824}$ | 30. $2\overline{)268}$ |

Write a division sentence for each multiplication.

- |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| 31. $123 \times 1 = 123$ | 32. $213 \times 3 = 639$ | 33. $111 \times 6 = 666$ |
| 34. $324 \times 2 = 648$ | 35. $122 \times 4 = 484$ | 36. $100 \times 9 = 900$ |

Solve.

37. One of the relay races was 366 m long. There were 3 children on each team. How far did each team member run?
38. The hot dog stand was open for 4 hours before it ran out of hot dogs. They took in \$848. About how much money did they take in each hour?

## Alphabet Soup

Here are three division puzzles.  
Each letter stands for a different digit.  
Find the missing digits.

$$\begin{array}{r} n \ n \ n \\ 6 \overline{) x \ x \ x} \end{array}$$

$$\begin{array}{r} 2 \ n \ a \\ a \overline{) x \ a \ 9} \end{array}$$

$$\begin{array}{r} n \ n \ r \\ r \overline{) r \ r \ 4} \end{array}$$

# Three-Digit Dividends

The canoe race was 642 m long. It was divided into 3 equal sections by rafts. When Gina went around the first raft, how far had she canoed?



Write the question.

$$\begin{array}{r} 3 \overline{) 642} \end{array}$$

Divide the hundreds.

$$\begin{array}{r} 2 \phantom{00} \\ 3 \overline{) 642} \\ \underline{-6} \phantom{00} \\ 0 \phantom{00} \end{array}$$

Divide the tens.

$$\begin{array}{r} 21 \phantom{00} \\ 3 \overline{) 642} \\ \underline{-6} \phantom{00} \downarrow \\ 04 \phantom{00} \\ \underline{-3} \phantom{00} \\ 1 \phantom{00} \end{array}$$

Divide.

$$\begin{array}{r} 214 \\ 3 \overline{) 642} \\ \underline{-6} \phantom{00} \downarrow \\ 04 \phantom{00} \\ \underline{-3} \phantom{00} \downarrow \\ 12 \phantom{00} \\ \underline{-12} \phantom{00} \\ 0 \phantom{00} \end{array}$$

Check:

$$\begin{array}{r} 214 \\ \times 3 \\ \hline 642 \end{array}$$

She had canoed 214 m.

## EXERCISES

Copy and complete each division.

$$\begin{array}{r} 11 \blacksquare \\ 1. \quad 2 \overline{) 234} \\ \underline{-2} \phantom{00} \\ 03 \phantom{00} \\ \underline{-2} \phantom{00} \\ 14 \phantom{00} \end{array}$$

$$\begin{array}{r} 22 \blacksquare \\ 2. \quad 2 \overline{) 456} \\ \underline{-4} \phantom{00} \\ 05 \phantom{00} \\ \underline{-4} \phantom{00} \\ 16 \phantom{00} \end{array}$$

$$\begin{array}{r} 11 \blacksquare \\ 3. \quad 3 \overline{) 345} \\ \underline{-3} \phantom{00} \\ 04 \phantom{00} \\ \underline{-3} \phantom{00} \\ 15 \phantom{00} \end{array}$$

$$\begin{array}{r} 32 \blacksquare \\ 4. \quad 3 \overline{) 972} \\ \underline{-9} \phantom{00} \\ 07 \phantom{00} \\ \underline{-6} \phantom{00} \\ 12 \phantom{00} \end{array}$$

$$\begin{array}{r} 11 \blacksquare \\ 5. \quad 5 \overline{) 560} \\ \underline{-5} \phantom{00} \\ 06 \phantom{00} \\ \underline{-5} \phantom{00} \\ 10 \phantom{00} \end{array}$$

$$\begin{array}{r} 2 \blacksquare \blacksquare \\ 6. \quad 2 \overline{) 472} \\ \underline{-4} \phantom{00} \\ 07 \phantom{00} \end{array}$$

$$\begin{array}{r} 2 \blacksquare \blacksquare \\ 7. \quad 3 \overline{) 648} \\ \underline{-6} \phantom{00} \\ 04 \phantom{00} \end{array}$$

$$\begin{array}{r} 3 \blacksquare \blacksquare \\ 8. \quad 3 \overline{) 975} \\ \underline{-9} \phantom{00} \\ 07 \phantom{00} \end{array}$$

$$\begin{array}{r} 1 \blacksquare \blacksquare \\ 9. \quad 4 \overline{) 496} \\ \underline{-4} \phantom{00} \\ 09 \phantom{00} \end{array}$$

$$\begin{array}{r} 1 \blacksquare \blacksquare \\ 10. \quad 6 \overline{) 672} \\ \underline{-6} \phantom{00} \\ 07 \phantom{00} \end{array}$$

$$11. \quad 2 \overline{) 658}$$

$$12. \quad 3 \overline{) 654}$$

$$13. \quad 4 \overline{) 872}$$

$$14. \quad 7 \overline{) 791}$$

$$15. \quad 8 \overline{) 896}$$

## PRACTICE

Divide.

1.  $2 \overline{)230}$

2.  $3 \overline{)345}$

3.  $4 \overline{)452}$

4.  $5 \overline{)565}$

5.  $6 \overline{)678}$

6.  $2 \overline{)256}$

7.  $3 \overline{)351}$

8.  $4 \overline{)464}$

9.  $7 \overline{)784}$

10.  $8 \overline{)896}$

11.  $6 \overline{)684}$

12.  $2 \overline{)472}$

13.  $5 \overline{)580}$

14.  $3 \overline{)987}$

15.  $4 \overline{)876}$

Divide. Check your answer.

16.  $2 \overline{)456}$

17.  $3 \overline{)354}$

18.  $4 \overline{)468}$

19.  $5 \overline{)575}$

20.  $6 \overline{)690}$

21.  $2 \overline{)674}$

22.  $3 \overline{)678}$

23.  $4 \overline{)472}$

24.  $6 \overline{)672}$

25.  $7 \overline{)791}$

26.  $7 \overline{)798}$

27.  $3 \overline{)948}$

28.  $5 \overline{)570}$

29.  $2 \overline{)898}$

30.  $4 \overline{)856}$

Write a division sentence for each multiplication.

31.  $116 \times 2 = 232$

32.  $124 \times 4 = 496$

33.  $115 \times 6 = 690$

34.  $325 \times 3 = 975$

35.  $117 \times 5 = 585$

36.  $112 \times 7 = 784$

Solve.

37. Mark was serving ice cream, 2 scoops to a customer. He made 238 scoops. How many customers did Mark serve?

38. A cruise boat took people on a trip for \$5 each. The money taken in for one cruise was \$575. How many people took the cruise?

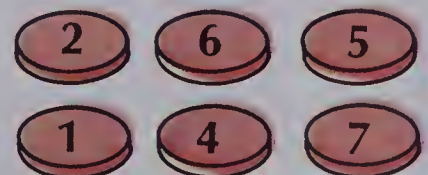
## Counter Trick

Make two rows of counters.

The sum of the numbers in the top row is 13.

The sum of the numbers in the bottom row is 12.

Move two of the counters so that the sums of each row are the same.





# Three-Digit Dividends

For the watermelon-eating contests, watermelons were cut into 4 pieces each. The organizer counted 508 pieces. How many watermelons had been cut?



Write the question.

$$4 \overline{)508}$$

Divide the hundreds.

$$\begin{array}{r} 1 \\ 4 \overline{)508} \\ \underline{-4} \phantom{0} \\ 1 \phantom{0} \end{array}$$

Divide.

$$\begin{array}{r} 12 \\ 4 \overline{)508} \\ \underline{-4} \phantom{0} \downarrow \\ 10 \\ \underline{-8} \phantom{0} \\ 2 \phantom{0} \end{array}$$

Divide.

$$\begin{array}{r} 127 \\ 4 \overline{)508} \\ \underline{-4} \phantom{0} \downarrow \\ 10 \\ \underline{-8} \phantom{0} \downarrow \\ 28 \\ \underline{-28} \phantom{0} \\ 0 \end{array}$$

Check:

$$\begin{array}{r} 127 \\ \times 4 \\ \hline 508 \end{array}$$

127 watermelons had been cut.

## EXERCISES

Copy and complete each division.

1.  $\begin{array}{r} 15\blacksquare \\ 2 \overline{)312} \\ \underline{-2} \phantom{0} \\ 11 \\ \underline{-10} \phantom{0} \\ 12 \end{array}$

2.  $\begin{array}{r} 24\blacksquare \\ 3 \overline{)747} \\ \underline{-6} \phantom{0} \\ 14 \\ \underline{-12} \phantom{0} \\ 27 \end{array}$

3.  $\begin{array}{r} 15\blacksquare \\ 4 \overline{)624} \\ \underline{-4} \phantom{0} \\ 22 \\ \underline{-20} \phantom{0} \\ 24 \end{array}$

4.  $\begin{array}{r} 13\blacksquare \\ 5 \overline{)675} \\ \underline{-5} \phantom{0} \\ 17 \\ \underline{-15} \phantom{0} \\ 25 \end{array}$

5.  $\begin{array}{r} 15\blacksquare \\ 6 \overline{)942} \\ \underline{-6} \phantom{0} \\ 34 \\ \underline{-30} \phantom{0} \\ 42 \end{array}$

6.  $\begin{array}{r} 2\blacksquare\blacksquare \\ 2 \overline{)574} \\ \underline{-4} \phantom{0} \\ 17 \end{array}$

7.  $\begin{array}{r} 2\blacksquare\blacksquare \\ 3 \overline{)852} \\ \underline{-6} \phantom{0} \\ 25 \end{array}$

8.  $\begin{array}{r} 2\blacksquare\blacksquare \\ 4 \overline{)912} \\ \underline{-8} \phantom{0} \\ 11 \end{array}$

9.  $\begin{array}{r} 1\blacksquare\blacksquare \\ 5 \overline{)780} \\ \underline{-5} \phantom{0} \\ 28 \end{array}$

10.  $\begin{array}{r} 1\blacksquare\blacksquare \\ 7 \overline{)861} \\ \underline{-7} \phantom{0} \\ 16 \end{array}$

11.  $2 \overline{)976}$

12.  $3 \overline{)588}$

13.  $4 \overline{)756}$

14.  $6 \overline{)972}$

15.  $8 \overline{)992}$

## PRACTICE

Divide.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 1. $2\overline{)352}$  | 2. $3\overline{)465}$  | 3. $4\overline{)536}$  | 4. $5\overline{)665}$  | 5. $6\overline{)744}$  |
| 6. $2\overline{)574}$  | 7. $3\overline{)528}$  | 8. $4\overline{)632}$  | 9. $7\overline{)854}$  | 10. $8\overline{)904}$ |
| 11. $7\overline{)938}$ | 12. $4\overline{)756}$ | 13. $5\overline{)760}$ | 14. $3\overline{)747}$ | 15. $6\overline{)852}$ |

Divide. Check your answer.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 16. $2\overline{)734}$ | 17. $3\overline{)561}$ | 18. $4\overline{)588}$ | 19. $5\overline{)830}$ | 20. $6\overline{)774}$ |
| 21. $2\overline{)976}$ | 22. $3\overline{)714}$ | 23. $4\overline{)692}$ | 24. $7\overline{)875}$ | 25. $8\overline{)984}$ |
| 26. $6\overline{)954}$ | 27. $2\overline{)978}$ | 28. $5\overline{)945}$ | 29. $4\overline{)996}$ | 30. $3\overline{)888}$ |

Write a division sentence for each multiplication.

- |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| 31. $165 \times 2 = 250$ | 32. $137 \times 4 = 548$ | 33. $156 \times 6 = 936$ |
| 34. $257 \times 3 = 771$ | 35. $148 \times 5 = 740$ | 36. $134 \times 7 = 938$ |

Solve.

37. The hot dog stand expects to sell 952 hot dogs. The buns come in packages of 8. How many packages of buns should they order?
38. The kilometre race was really only 984 m. Each runner went around a track 6 times. How many metres was each lap?  
How short of one kilometre was the course?

## Consumer Problem

The organizers estimate that they will need 984 servings of milk for the children at the picnic. They expect to get 4 servings of milk from every litre. How many 2 L cartons of milk should they buy for the picnic?

# Remainders

The organizers of the picnic want 900 sparklers for the children.  
The sparklers come in packages of 8.  
How many packages do they need?

Write the question.

$$8 \overline{)900}$$

Divide the hundreds.

$$\begin{array}{r} 1 \\ 8 \overline{)900} \\ \underline{-8} \\ 1 \end{array}$$

Divide.

$$\begin{array}{r} 11 \\ 8 \overline{)900} \\ \underline{-8} \downarrow \\ 10 \\ \underline{-8} \\ 2 \end{array}$$

Divide.

$$\begin{array}{r} 112 \\ 8 \overline{)900} \\ \underline{-8} \downarrow \\ 10 \\ \underline{-8} \downarrow \\ 20 \\ \underline{-16} \\ 4 \end{array}$$

Write the remainder.

$$\begin{array}{r} 112R4 \\ 8 \overline{)900} \\ \underline{-8} \\ 10 \\ \underline{-8} \\ 20 \\ \underline{-16} \\ 4 \end{array}$$

They need 112 packages,  
and 4 more sparklers.

How many packages should they order?

## EXERCISES

Copy and complete each division.

1.  $\begin{array}{r} 12 \blacksquare R \blacksquare \\ 2 \overline{)247} \\ \underline{-2} \\ 04 \\ \underline{-4} \\ 07 \end{array}$

2.  $\begin{array}{r} 21 \blacksquare R \blacksquare \\ 3 \overline{)650} \\ \underline{-6} \\ 05 \\ \underline{-3} \\ 20 \end{array}$

3.  $\begin{array}{r} 13 \blacksquare R \blacksquare \\ 4 \overline{)541} \\ \underline{-4} \\ 14 \\ \underline{-12} \\ 21 \end{array}$

4.  $\begin{array}{r} 11 \blacksquare R \blacksquare \\ 5 \overline{)579} \\ \underline{-5} \\ 07 \\ \underline{-5} \\ 29 \end{array}$

5.  $\begin{array}{r} 13 \blacksquare R \blacksquare \\ 6 \overline{)839} \\ \underline{-6} \\ 23 \\ \underline{-18} \\ 59 \end{array}$

6.  $\begin{array}{r} 1 \blacksquare \blacksquare R \blacksquare \\ 2 \overline{)361} \\ \underline{-2} \\ 16 \end{array}$

7.  $\begin{array}{r} 2 \blacksquare \blacksquare R \blacksquare \\ 3 \overline{)767} \\ \underline{-6} \\ 16 \end{array}$

8.  $\begin{array}{r} 2 \blacksquare \blacksquare R \blacksquare \\ 4 \overline{)930} \\ \underline{-8} \\ 13 \end{array}$

9.  $\begin{array}{r} 1 \blacksquare \blacksquare R \blacksquare \\ 5 \overline{)984} \\ \underline{-5} \\ 48 \end{array}$

10.  $\begin{array}{r} 1 \blacksquare \blacksquare R \blacksquare \\ 7 \overline{)789} \\ \underline{-7} \\ 08 \end{array}$

11.  $5 \overline{)763}$

12.  $6 \overline{)790}$

13.  $7 \overline{)900}$

14.  $8 \overline{)903}$

15.  $8 \overline{)899}$



## PRACTICE

Divide.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 1. $2\overline{)265}$  | 2. $3\overline{)635}$  | 3. $4\overline{)847}$  | 4. $5\overline{)559}$  | 5. $6\overline{)668}$  |
| 6. $2\overline{)459}$  | 7. $3\overline{)685}$  | 8. $4\overline{)471}$  | 9. $7\overline{)785}$  | 10. $8\overline{)893}$ |
| 11. $7\overline{)976}$ | 12. $4\overline{)713}$ | 13. $6\overline{)995}$ | 14. $5\overline{)824}$ | 15. $3\overline{)850}$ |

Divide. Check your answer.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 16. $2\overline{)687}$ | 17. $3\overline{)968}$ | 18. $4\overline{)445}$ | 19. $5\overline{)556}$ | 20. $6\overline{)669}$ |
| 21. $2\overline{)873}$ | 22. $3\overline{)944}$ | 23. $4\overline{)857}$ | 24. $7\overline{)797}$ | 25. $8\overline{)899}$ |
| 26. $6\overline{)887}$ | 27. $4\overline{)905}$ | 28. $8\overline{)900}$ | 29. $3\overline{)779}$ | 30. $5\overline{)866}$ |

Solve.

31. The expenses of the Burlington picnic were \$650 more than expected. The Lion's Club decided to raise the money by having each member contribute \$4. How many members are in the Lion's Club?
32. In the afternoon there were 3 softball games. The total attendance was 322 men, 212 women, and 311 children. The crowds were almost evenly divided. About how many people watched each game?

## USING THE CALCULATOR

Use your calculator to do these. Which ones divide evenly?

$1023 \div 3$

$921 \div 3$

$2474 \div 3$

$792 \div 3$

$85 \div 3$

$96 \div 3$

Find the sum of the digits in each dividend.

Can you state a rule for numbers evenly divisible by 3? by 9?

# Zero in the Quotient

The food committee thought they would need to grill 918 hamburgers at the picnic. A kilogram of ground beef makes 9 hamburgers. How many kilograms of ground beef did they order?



Write the question.

$$9 \overline{) 918}$$

Divide the hundreds.

$$\begin{array}{r} 1 \\ 9 \overline{) 918} \\ \underline{-9} \\ 0 \end{array}$$

Divide the tens.

$$\begin{array}{r} 10 \\ 9 \overline{) 918} \\ \underline{-9} \downarrow \\ 01 \\ \underline{-0} \\ 1 \end{array}$$

Divide.

$$\begin{array}{r} 102 \\ 9 \overline{) 918} \\ \underline{-9} \downarrow \\ 01 \\ \underline{-0} \downarrow \\ 18 \\ \underline{-18} \\ 0 \end{array}$$

Check:

$$\begin{array}{r} 102 \\ \times 9 \\ \hline 918 \end{array}$$

They ordered 102 kg of ground beef.

## EXERCISES

Copy and complete each division.

1.  $\begin{array}{r} 1 \blacksquare 8 \\ 2 \overline{) 216} \\ \underline{-2} \\ 01 \\ \underline{-0} \\ 16 \end{array}$

2.  $\begin{array}{r} 23 \blacksquare R \blacksquare \\ 3 \overline{) 692} \\ \underline{-6} \\ 09 \\ \underline{-9} \\ 02 \end{array}$

3.  $\begin{array}{r} 2 \blacksquare 9 R \blacksquare \\ 4 \overline{) 837} \\ \underline{-8} \\ 03 \\ \underline{-0} \\ 37 \end{array}$

4.  $\begin{array}{r} 1 \blacksquare 1 R \blacksquare \\ 5 \overline{) 508} \\ \underline{-5} \\ 00 \\ \underline{-0} \\ 08 \end{array}$

5.  $\begin{array}{r} 11 \blacksquare R \blacksquare \\ 6 \overline{) 665} \\ \underline{-6} \\ 06 \\ \underline{-6} \\ 05 \end{array}$

6.  $\begin{array}{r} 2 \blacksquare \blacksquare R \blacksquare \\ 2 \overline{) 501} \\ \underline{-4} \\ 10 \end{array}$

7.  $\begin{array}{r} 3 \blacksquare \blacksquare \\ 3 \overline{) 915} \\ \underline{-9} \\ 01 \end{array}$

8.  $\begin{array}{r} 1 \blacksquare \blacksquare R \blacksquare \\ 4 \overline{) 762} \\ \underline{-4} \\ 36 \end{array}$

9.  $\begin{array}{r} 1 \blacksquare \blacksquare R \blacksquare \\ 7 \overline{) 775} \\ \underline{-7} \\ 07 \end{array}$

10.  $\begin{array}{r} 1 \blacksquare \blacksquare R \blacksquare \\ 8 \overline{) 870} \\ \underline{-8} \\ 07 \end{array}$

11.  $2 \overline{) 807}$

12.  $3 \overline{) 360}$

13.  $4 \overline{) 439}$

14.  $8 \overline{) 832}$

15.  $9 \overline{) 989}$

Divide.

## PRACTICE

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 1. $2\overline{)421}$  | 2. $3\overline{)452}$  | 3. $4\overline{)840}$  | 4. $5\overline{)654}$  | 5. $6\overline{)720}$  |
| 6. $2\overline{)412}$  | 7. $3\overline{)627}$  | 8. $4\overline{)436}$  | 9. $7\overline{)769}$  | 10. $8\overline{)855}$ |
| 11. $8\overline{)871}$ | 12. $4\overline{)484}$ | 13. $6\overline{)643}$ | 14. $5\overline{)852}$ | 15. $3\overline{)612}$ |

Divide. Check your answer.

- |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 16. $2\overline{)260}$ | 17. $3\overline{)961}$ | 18. $4\overline{)683}$ | 19. $5\overline{)753}$ | 20. $6\overline{)844}$ |
| 21. $2\overline{)607}$ | 22. $3\overline{)918}$ | 23. $4\overline{)832}$ | 24. $7\overline{)745}$ | 25. $8\overline{)877}$ |
| 26. $6\overline{)605}$ | 27. $4\overline{)721}$ | 28. $5\overline{)524}$ | 29. $7\overline{)630}$ | 30. $3\overline{)629}$ |

Solve.

31. A bakery made 540 cookies for the Burlington picnic. They made the cookies in 5 batches. How many cookies were made in each batch?
32. At the picnic, children under age ten got three tickets each for rides. 627 tickets were given out. How many children got the tickets?

## I'm Thinking of a Number

It comes between 800 and 830.

Dividing by 2 gives a remainder of 1.

Dividing by 5 gives a remainder of 3.

Dividing by 7 gives a quotient of 117.

What is the number?



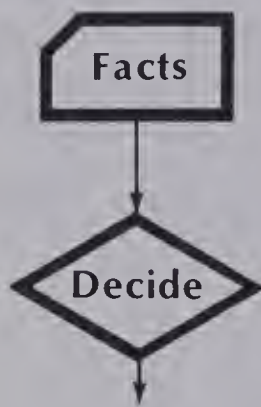


# Extra Information

Over 400 people attended a picnic.  
In all, 25 cartons of soft drinks were sold.  
There were 24 cans in each carton.  
Each can cost 30¢.  
How many cans of soft drinks were sold?



This problem has too much information. What facts do you need?



~~400 people~~  
25 cartons of soft drinks  
24 cans in each carton  
~~30¢ each~~

To find **how many** cans,  
**multiply**  $24 \times 25$ .

## EXERCISES

Copy the facts needed to solve each problem.

1. Four-litre cans of fruit sell for \$5 each. How much will 6 cans cost?
2. A 2 kg package of hamburger costs \$10. Mr. Clancy wants 20 kg of hamburger. How many 2 kg packages should he buy?
3. A room is 4 m wide, 3 m high, and 5 m long. What is the area of the floor?
4. Sarah is 10 years old. She earns \$3 a week on her paper route. How much does she earn in 4 weeks?
5. Sam bought a 284 mL can of pop for 40¢. He bought a 32 g candy bar for 30¢. How much did he spend?

## PRACTICE

Find the facts needed in each problem. Solve.

1. Susan won the race for 9-year-old girls. Her time was 14.0 seconds. Janet's time was 14.4 seconds. Ingrid's time was 15.3 seconds. By how much did Ingrid lose?
2. A carton of peanuts has 4 layers with 24 bags in each layer. A vendor ordered 5 cartons. How many bags of peanuts are there in a carton?
3. About 500 people will attend the Sandy Hill picnic. The hot dog stand expects to sell 750 hot dogs. Buns come in packages of 8. How many packages of buns should the stand order?
4. Mrs. Kemp gave Sharon \$5.00 for rides and food at the Fair. She gave Kurt \$3.50. Sharon had \$0.10 left over. What was the difference in the amounts Mrs. Kemp gave Sharon and Kurt?

## REVIEW

A61	Divide.				
	1. $1\overline{)362}$	2. $8\overline{)888}$	3. $4\overline{)484}$	4. $3\overline{)639}$	
A62	5. $7\overline{)784}$	6. $5\overline{)575}$	7. $4\overline{)872}$	8. $3\overline{)687}$	
A63	9. $6\overline{)744}$	10. $5\overline{)880}$	11. $4\overline{)696}$	12. $3\overline{)801}$	
A64	13. $6\overline{)974}$	14. $7\overline{)796}$	15. $8\overline{)899}$	16. $3\overline{)779}$	
A65	17. $7\overline{)766}$	18. $4\overline{)683}$	19. $2\overline{)607}$	20. $3\overline{)918}$	

# TEST

# UNIT 11

Multiply.

1. 
$$\begin{array}{r} 56 \\ \times 30 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 27 \\ \times 60 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 37 \\ \times 50 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 42 \\ \times 40 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 67 \\ \times 80 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 27 \\ \times 45 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 35 \\ \times 62 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 91 \\ \times 19 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 45 \\ \times 26 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 73 \\ \times 34 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 293 \\ \times 50 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 427 \\ \times 70 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 361 \\ \times 60 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 546 \\ \times 80 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 940 \\ \times 40 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 225 \\ \times 43 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 354 \\ \times 72 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 834 \\ \times 63 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 285 \\ \times 38 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 492 \\ \times 94 \\ \hline \end{array}$$

Divide.

21.  $2 \overline{)268}$

22.  $3 \overline{)639}$

23.  $4 \overline{)488}$

24.  $5 \overline{)555}$

25.  $2 \overline{)824}$

26.  $2 \overline{)456}$

27.  $3 \overline{)378}$

28.  $4 \overline{)868}$

29.  $5 \overline{)565}$

30.  $7 \overline{)784}$

31.  $2 \overline{)332}$

32.  $3 \overline{)435}$

33.  $5 \overline{)620}$

34.  $8 \overline{)912}$

35.  $4 \overline{)956}$

36.  $3 \overline{)968}$

37.  $4 \overline{)855}$

38.  $6 \overline{)669}$

39.  $2 \overline{)587}$

40.  $7 \overline{)855}$

41.  $4 \overline{)408}$

42.  $2 \overline{)260}$

43.  $3 \overline{)918}$

44.  $7 \overline{)736}$

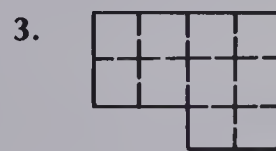
45.  $5 \overline{)527}$

Solve.

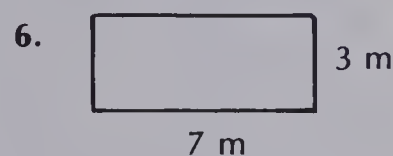
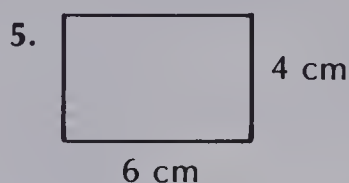
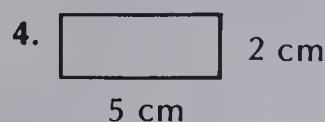
46. Sari sold lemonade for 30¢ a cup. She sold 19 cups the first day and 7 cups the second day. How much money did she take in the first day?



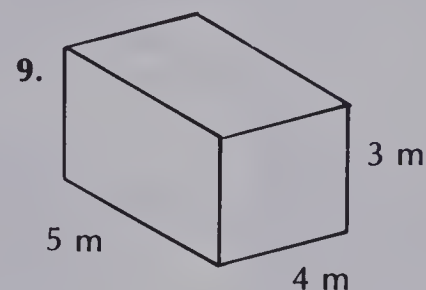
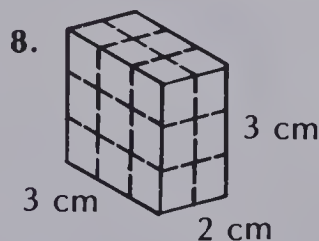
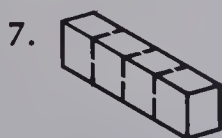
What is the area of each surface?



What is the area in square centimetres or square metres?



What is the volume?



Solve.

10. John kept a record of how long it took him to do his homework one week. The times were: 20 min, 35 min, 40 min, 30 min, and 50 min. What was the average length of time he spent on homework each night?

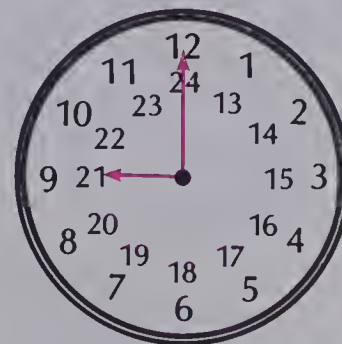
11. The scale on a map is  $1 \text{ cm} = 5 \text{ km}$ . The map distance between two places is 4 cm. What is the actual distance between the two places?

12. How many hours are there in a day?

13. How many months are there in 2 years?

14. What time is it if the clock is showing a morning time?

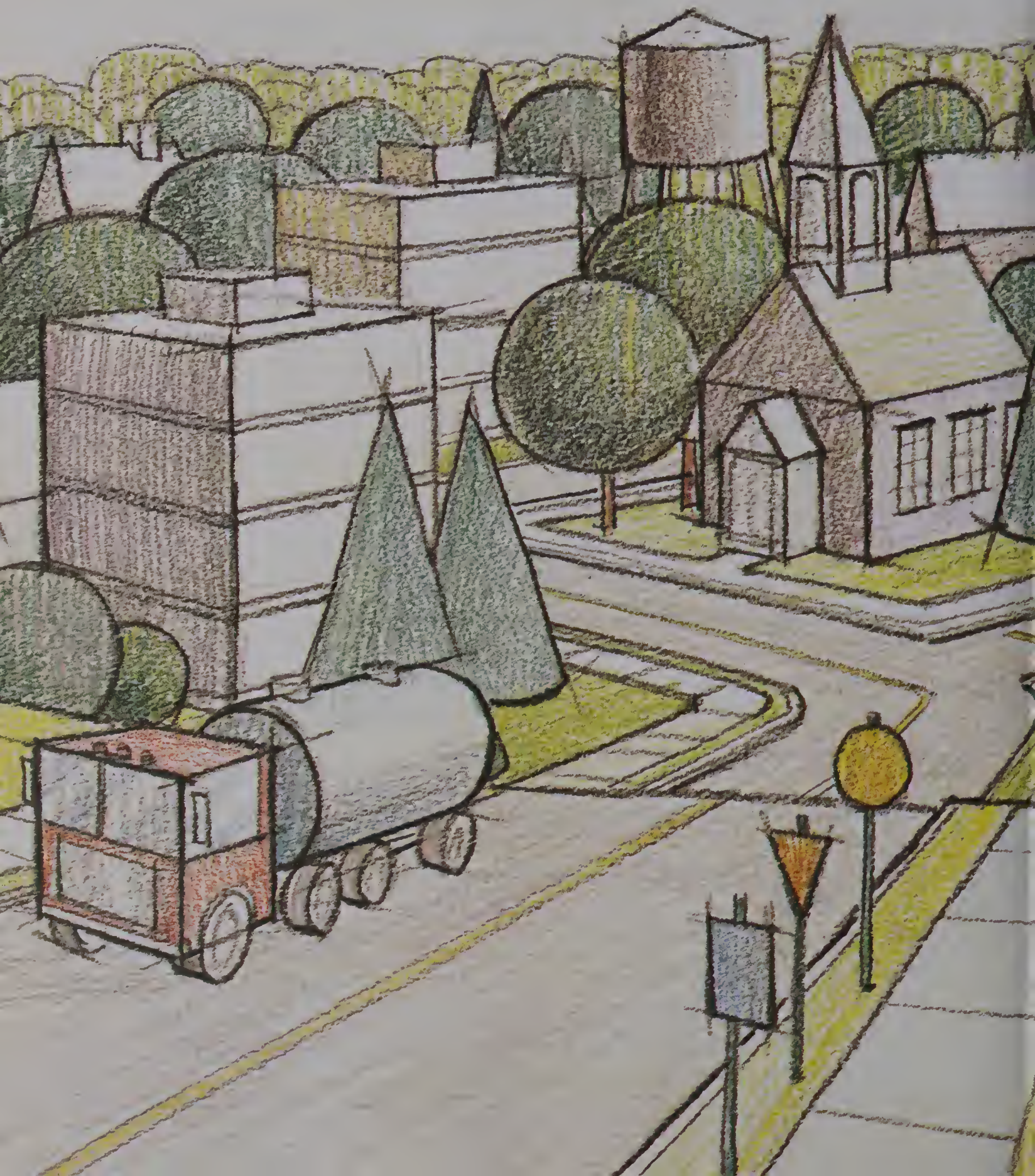
15. What time is it on the 24 hour clock if the clock is showing an evening time?





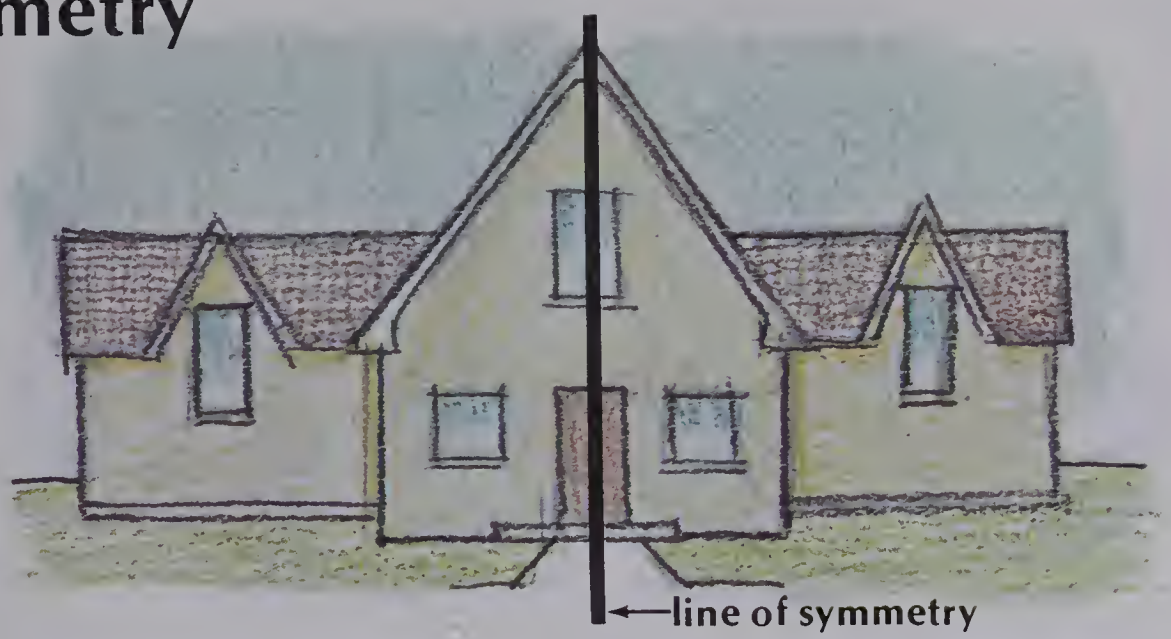
# UNIT 12

## GEOMETRY

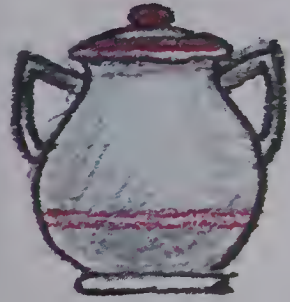
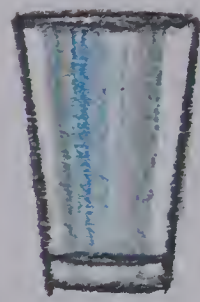






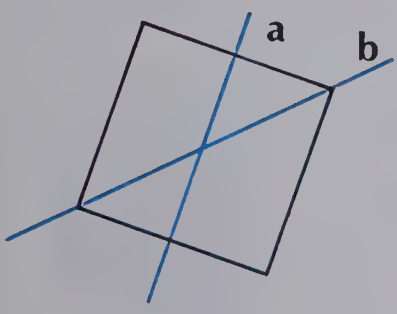
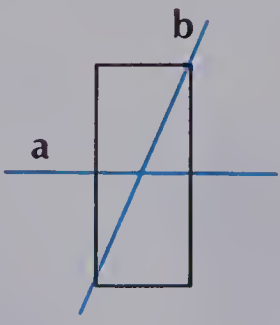
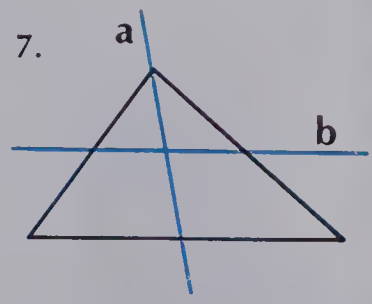
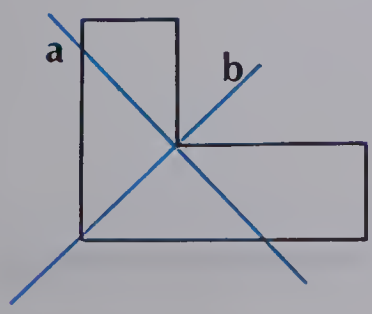
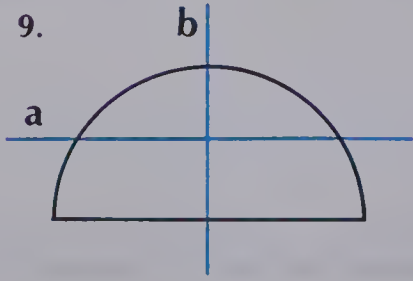
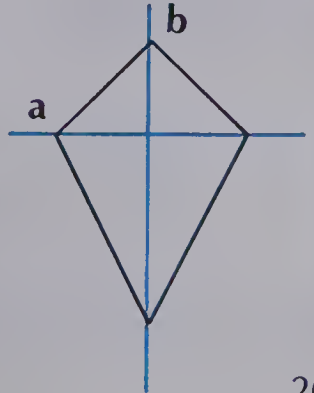
# Symmetry



Is the object symmetric?

1. 
2. 
3. 
4. 

Name each line of symmetry.

5. 
6. 
7. 
8. 
9. 
10. 



# Solids

Solids have two kinds of surfaces:

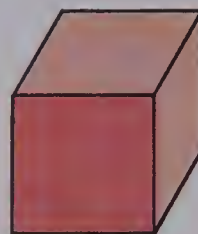
**curved surfaces** and **faces** (flat surfaces).



sphere



cone



cube

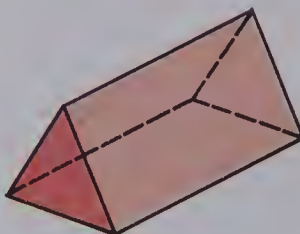
They may have **curved edges** or **straight edges**.



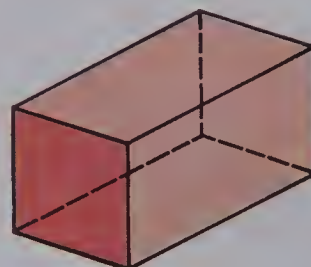
pyramid



cylinder



prism



rectangular solid

Straight edges meet at a **vertex**.

## EXERCISES

What solid does each object suggest?

1.



2.



3.



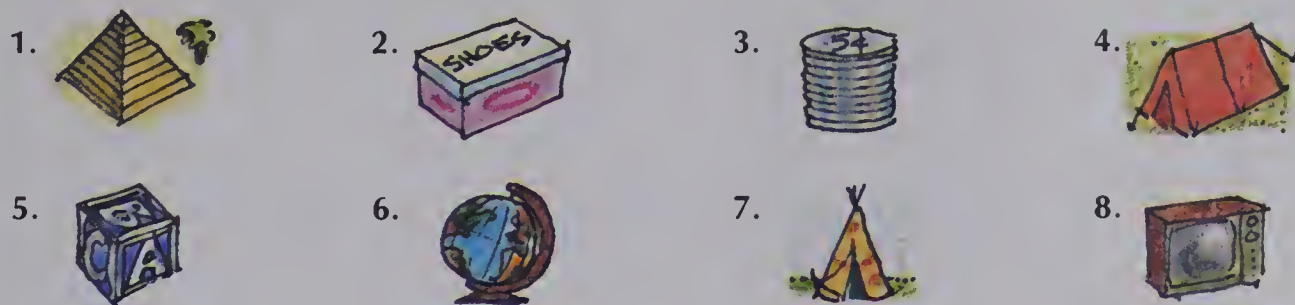
4.



5. Name the solids that have faces.
6. Name the solids that have curved edges.
7. Name the solids that have no vertices.

# PRACTICE

What solid does each object suggest?



9. Which solids have both kinds of surfaces (curved and flat)?
10. Which solids have only straight edges?
11. I have one flat surface.  
I have one curved surface.  
I have one vertex.  
What am I?
12. I have no vertices.  
I have edges.  
What am I?
13. Complete the table for all seven solids.

name of solid	faces	edges	vertices
cube	8		

## Making Faces

Imagine cutting through the middle of a cube or a sphere.

What would the cut side look like?

Here are drawings of 4 solids being cut.

Match the face of the cut piece to figure A, B, C, D, or E.



A



B



C



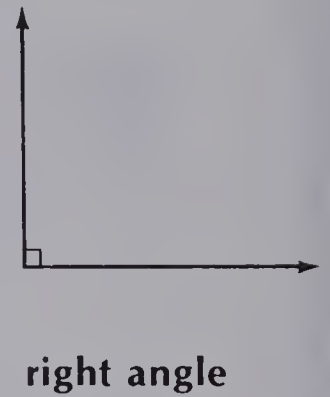
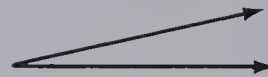
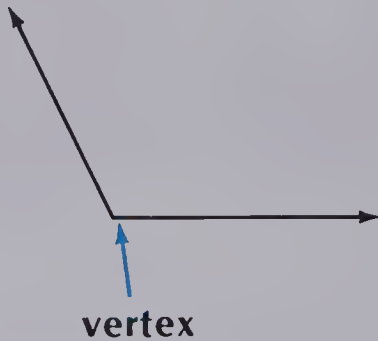
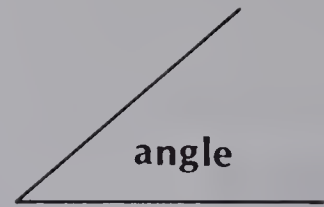
D



E

# Angles

When two straight lines, segments, or rays meet, they form an **angle**.

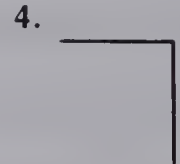


Lines or segments meet at a **vertex**.

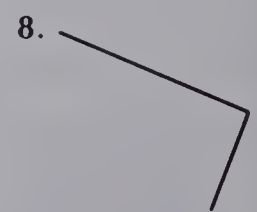
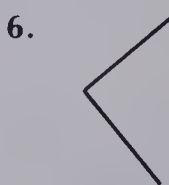
The arms of a **right angle** make a square corner.

## EXERCISES

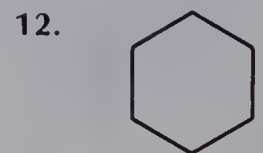
Does the figure have an angle?



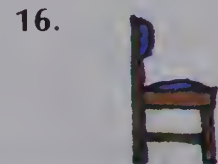
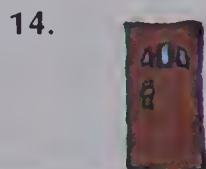
Does the figure have a right angle?



How many angles are there in each figure below?



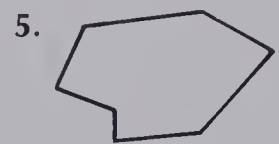
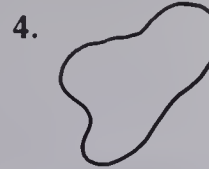
Does the picture suggest at least one angle?



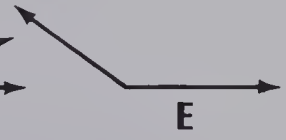
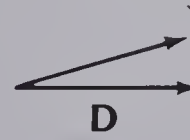
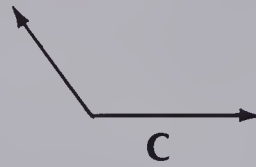
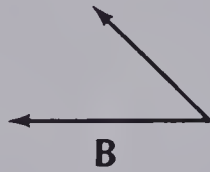
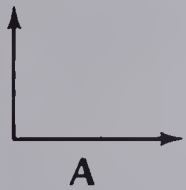


# PRACTICE

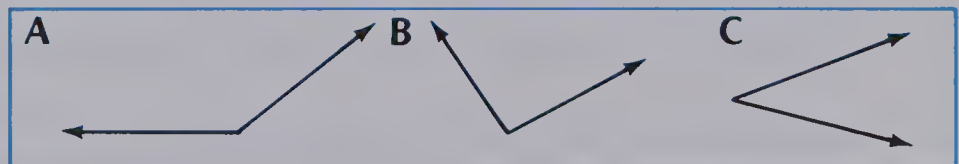
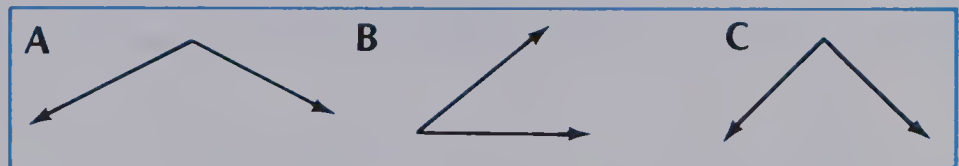
How many angles are in each figure?



6. Name the angles in order from smallest to largest.

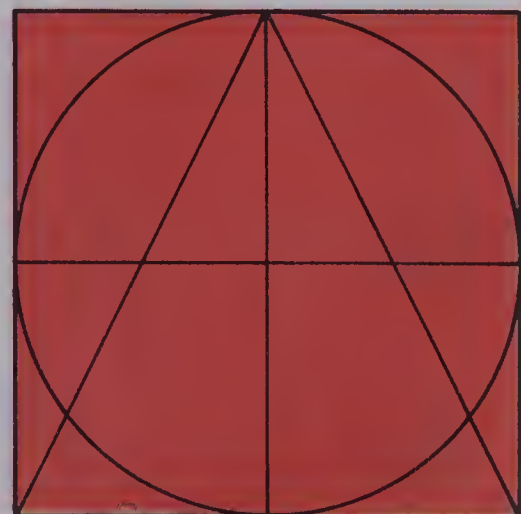


Write the letter of the angle that is the same size as the first angle.

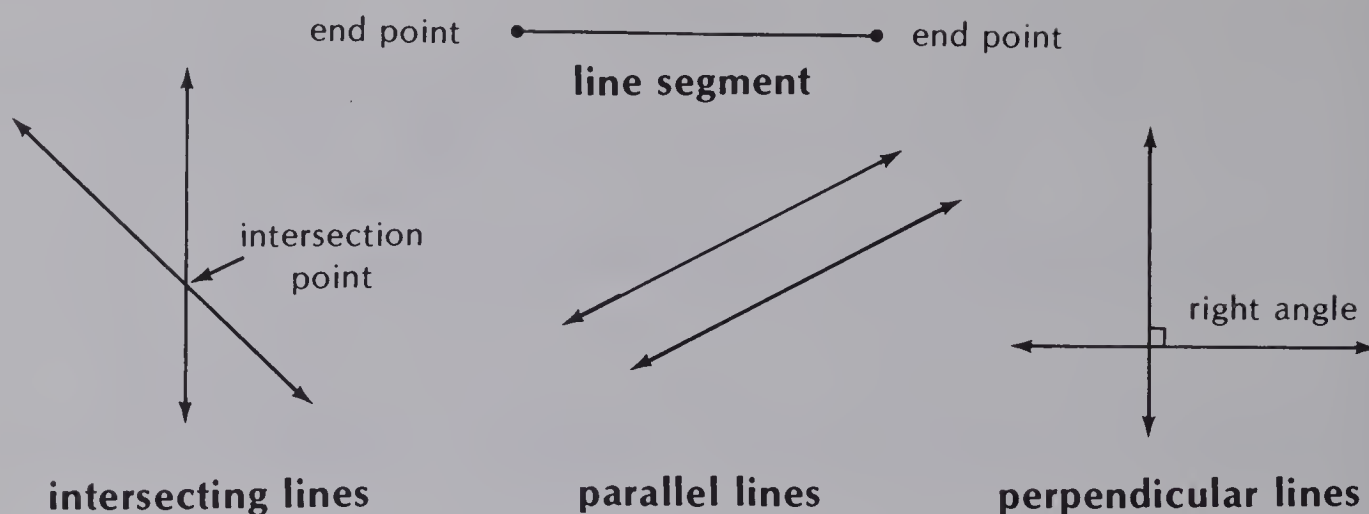


## Fancy Figures

Many numerals, geometric figures, and letters of the alphabet can be found in the diagram. How many of each kind can you find?



# Lines, Segments, and Points



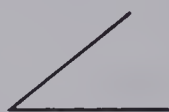
## EXERCISES

Tell whether the line segments are parallel, intersecting, or intersecting and perpendicular.

1.



2.



3.

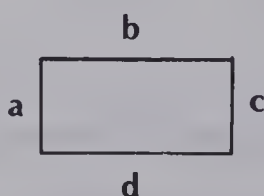


4.

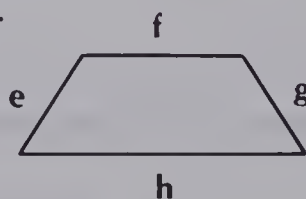


For each figure, name the parallel sides. Name the perpendicular sides.

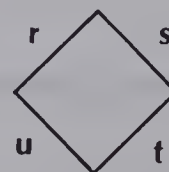
5.



6.



7.



Does the picture suggest parallel lines, intersecting lines, or perpendicular lines?

8.



9.



10.



11.



12.



13.

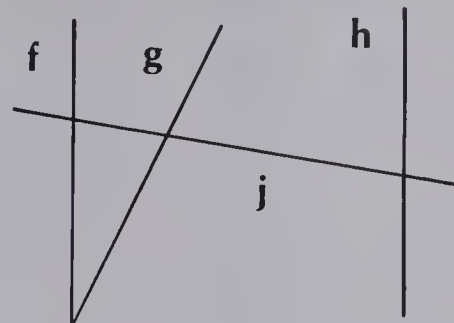
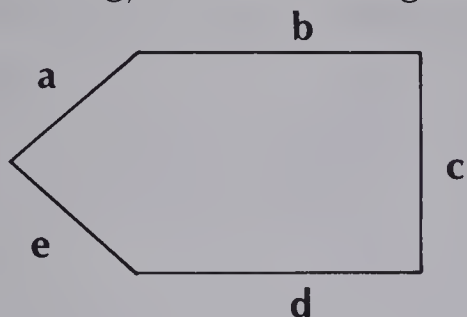


14.



## PRACTICE

Tell whether each pair of line segments is parallel, intersecting, *or* intersecting and perpendicular.



- |            |            |            |
|------------|------------|------------|
| 1. a and b | 2. b and c | 5. f and h |
| 3. c and d | 4. b and d | 6. g and j |
|            |            | 7. h and j |
|            |            | 8. f and g |
9. Name three objects in your classroom that have pairs of parallel segments.
10. Name objects in your classroom that have pairs of intersecting segments. Which also have perpendicular segments?

## REVIEW

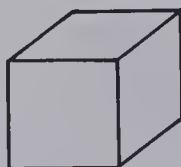
Name each solid.

G1

1.



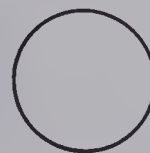
2.



3.



4.



G2

Does the figure have an angle?

5.



6.



7.



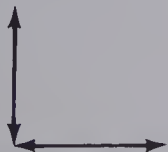
8.



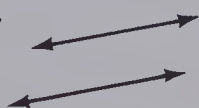
G3

Tell whether each pair of lines is parallel, intersecting, *or* intersecting and perpendicular.

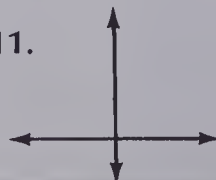
9.



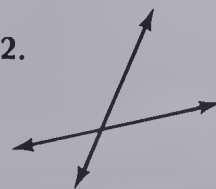
10.



11.



12.

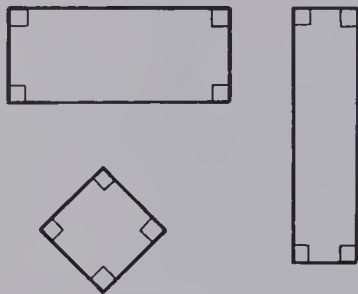




# Rectangles and Squares

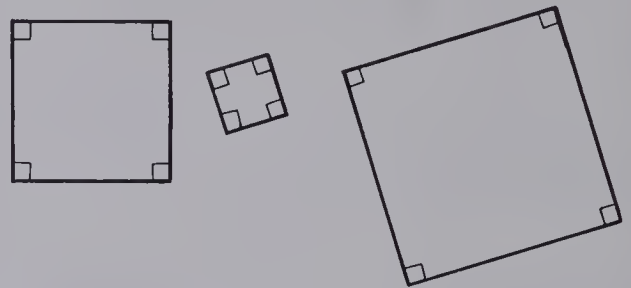
## rectangle

4 sides, 4 right angles

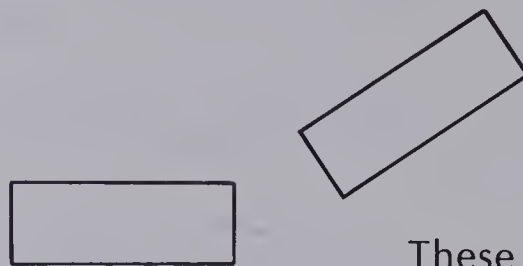


## square

a rectangle with all sides equal



**Congruent** figures have the same size and shape.



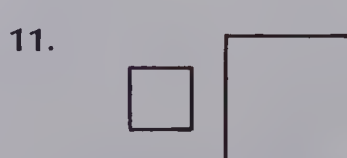
These rectangles are congruent.

## EXERCISES

What figure does each picture suggest?



Are these figures congruent?

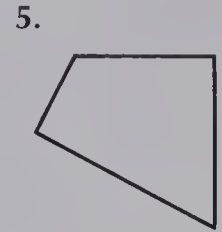
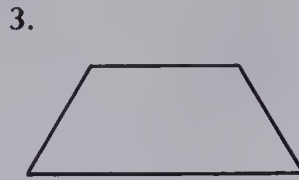
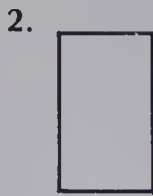
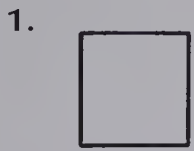


13. Is every square also a rectangle?

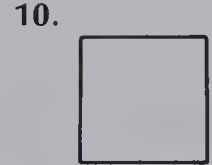
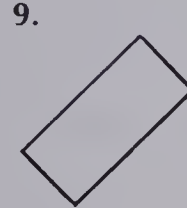
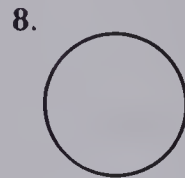
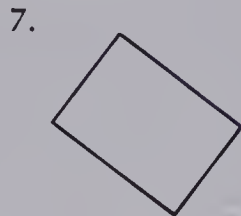
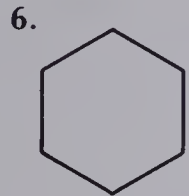
14. Is every rectangle also a square?

# PRACTICE

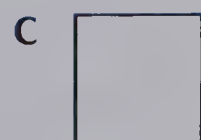
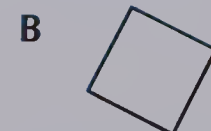
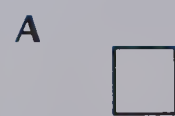
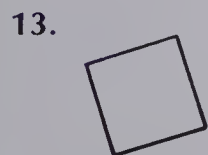
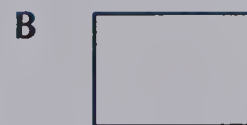
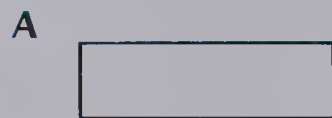
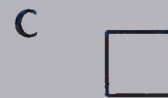
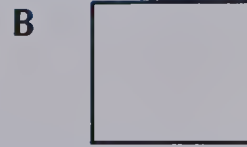
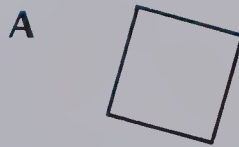
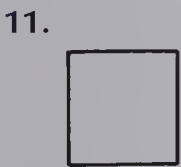
Is the figure a square?



Is the figure a rectangle?



Which figure (A, B, or C) is congruent to the first figure?



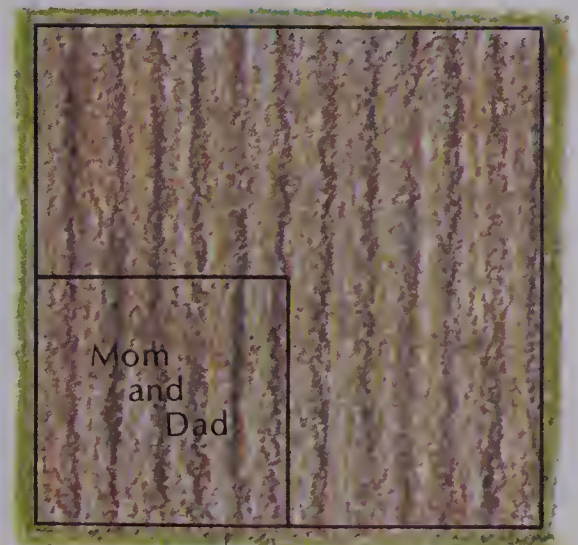
14. How many lines of symmetry does a square have?

15. How many lines of symmetry does a rectangle have?

## Square in a Square

A family garden is square.  
The mother and father keep one quarter  
of the garden for themselves.  
Divide the rest of the land so that each  
of their 4 children gets an equal part.

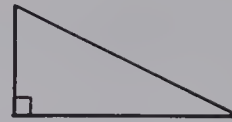
Note: If you want to move Mom and  
Dad's square, you may.



# Triangles

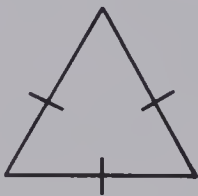
triangle

3 sides, 3 angles



right angle triangle

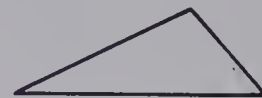
Triangles can have sides of equal length.



3 equal sides



2 equal sides

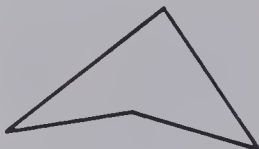


No equal sides

## EXERCISES

Is the figure a triangle?

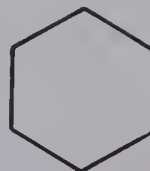
1.



2.



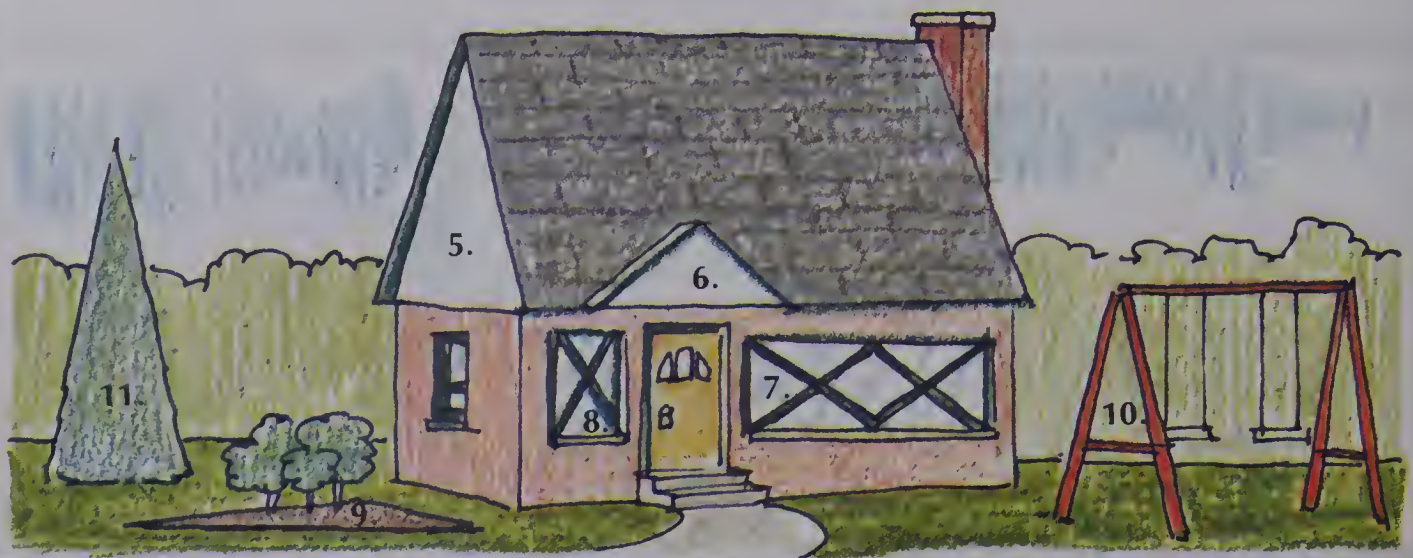
3.



4.



How many equal sides does each triangle below have?

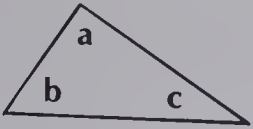
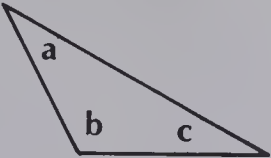
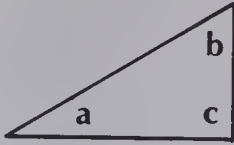
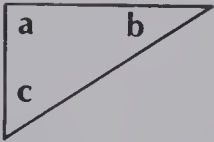




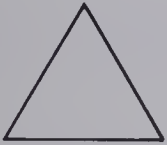
# PRACTICE


Which angle is a right angle?


Use the corner of a piece of paper to check your answer.



1. 
2. 
3. 
4. 


Which triangle (A, B, or C) is congruent to the first triangle?

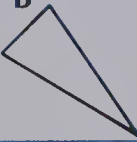
5. 


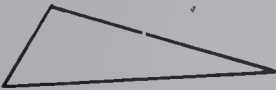
A  


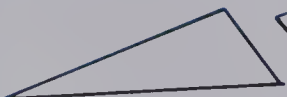
B  



C  

6. 

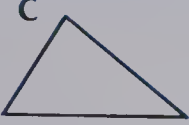
A  


B  


C  

7. 

A  


B  


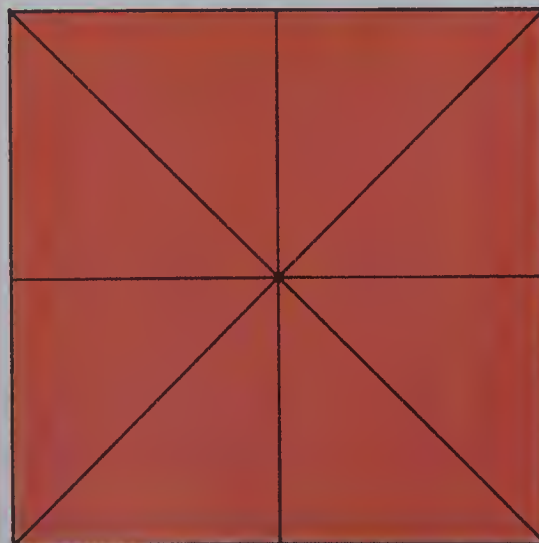
C  


How many lines of symmetry does each triangle have?

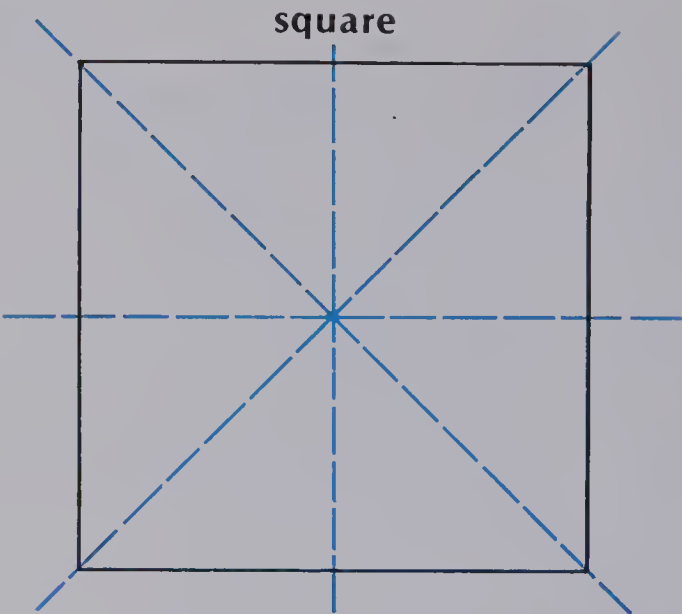
8. 
9. 
10. 

## Triangle Tracer

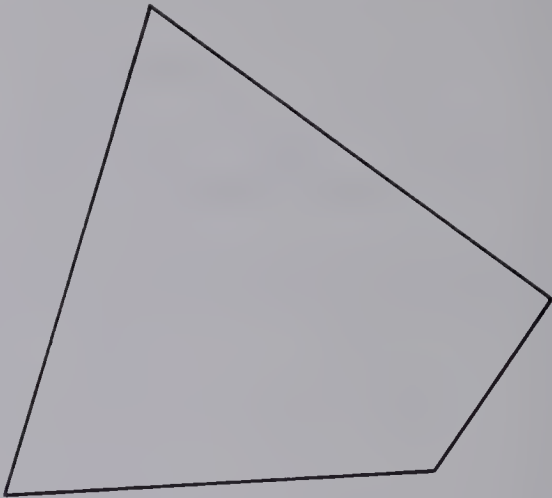
Can you find 16 triangles in this figure?



# Polygons



4 equal sides  
4 equal angles  
4 lines of symmetry

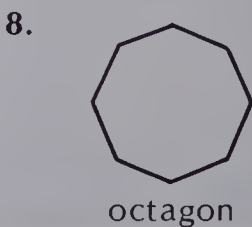
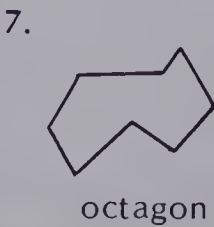
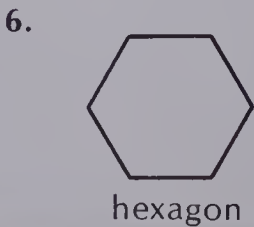
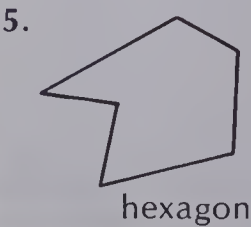
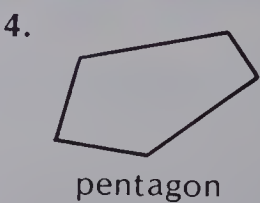
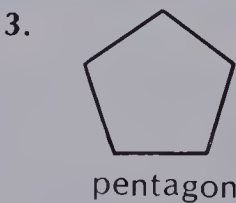
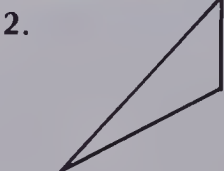


4 sides  
4 angles  
No lines of symmetry

## EXERCISES

Copy and complete this chart for the figures below.

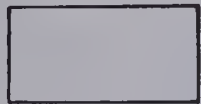
Number	Name	Number of Sides	Number of Angles	Number of Equal Sides	Number of Lines of Symmetry
1.					
2.					



# PRACTICE

Does the figure have all sides equal?  
Name each figure.

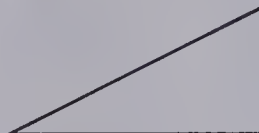
1.



2.



3.



4.

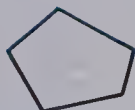


Which figure (A, B, or C) is congruent to the first figure?

5.



A



B



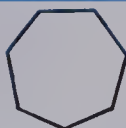
C



6.



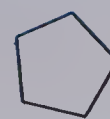
A



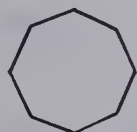
B



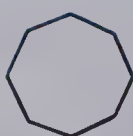
C



7.



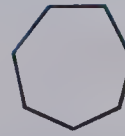
A



B



C



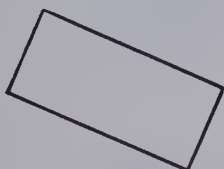
# REVIEW

Write S if the figure is a square.

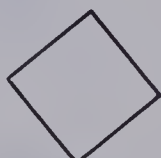
Write R if the figure is a rectangle and not a square.

G4

1.



2.



3.



4.



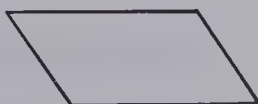
Is the figure a triangle? Write yes or no for each.

G5

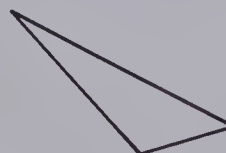
5.



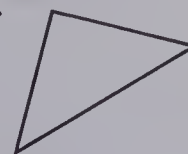
6.



7.



8.



G6

How many sides do these polygons have?

9. pentagon

10. hexagon

11. octagon



# Slides

The girl **slides** across the ice.



## EXERCISES

Which picture (A, B, or C) shows the first object after a slide?

1.		→	A 	B 	C 
2.		→			
3.		→			

Are the objects congruent? Trace the first one and **slide** it over the second one.

4.			5.		
6.			7.		

Which letter is in the same place in the second picture as the red dot in the first picture?

8.			9.		
----	--	--	----	--	--

# PRACTICE

Which pictures show slides?

1.



2.



3.



4.



Are the objects congruent? Trace the first one and slide it over the second one.

5.



6.

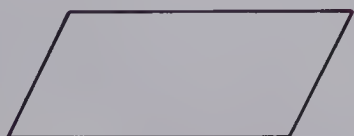


7.



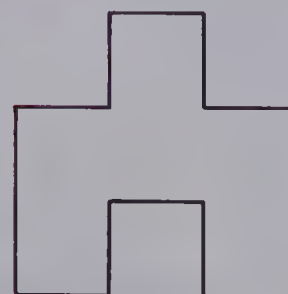
## Tiling

Trace this figure.

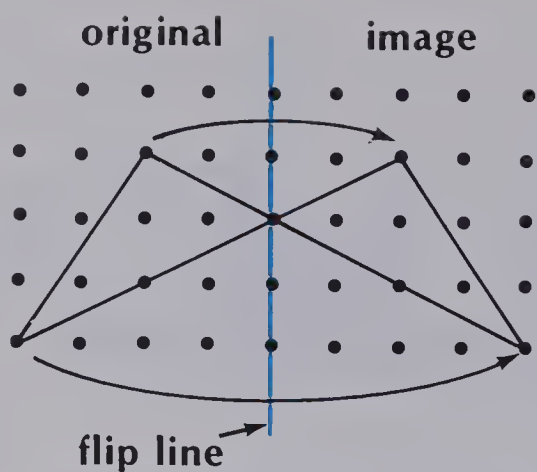


Make a pattern using slides.

Make other patterns with these figures.



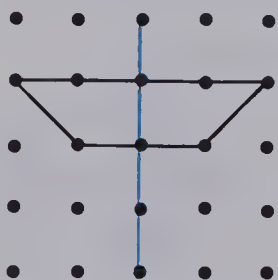
# Flips



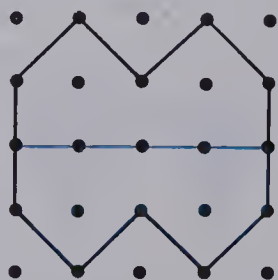
## EXERCISES

Does the picture suggest a flip?

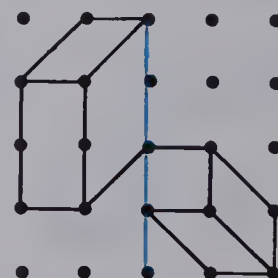
1.



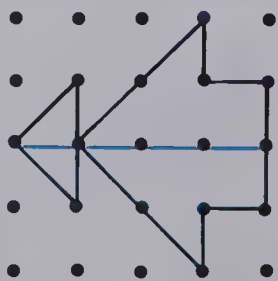
2.



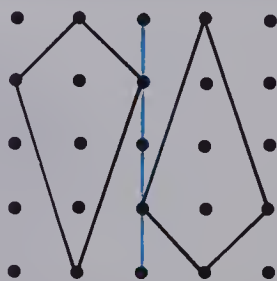
3.



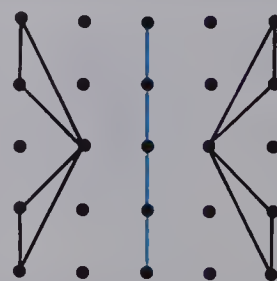
4.



5.

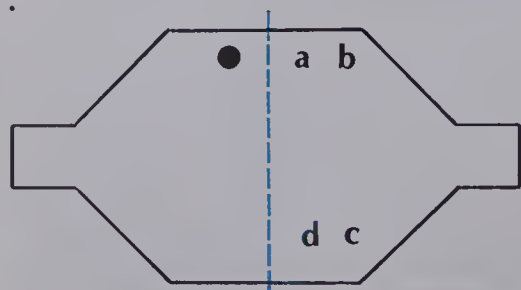


6.

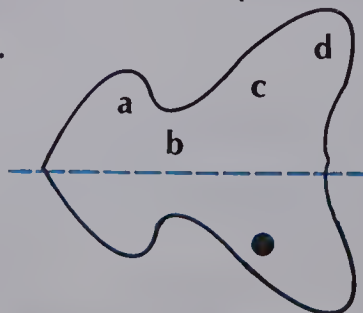


Tell where the black dot will be after each flip.

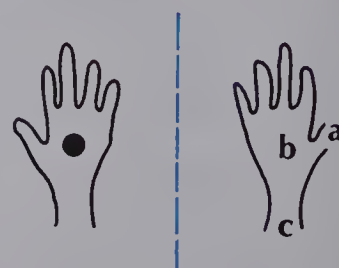
7.



8.



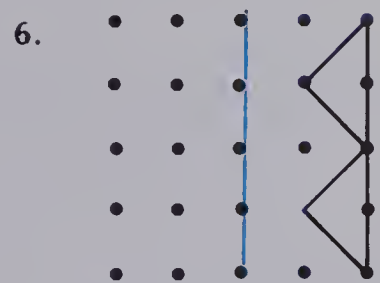
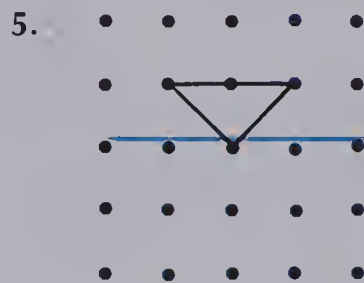
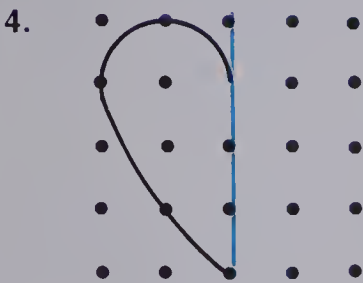
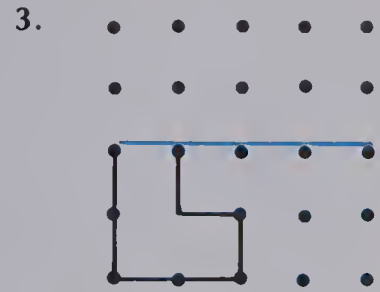
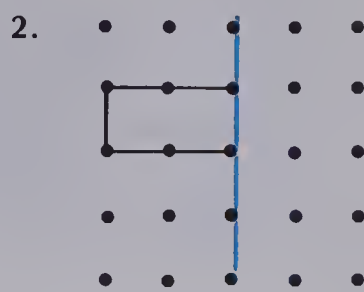
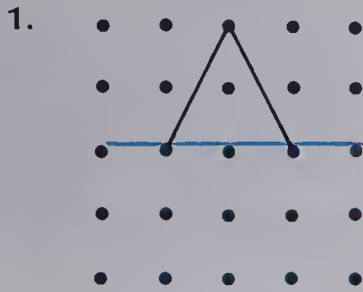
9.



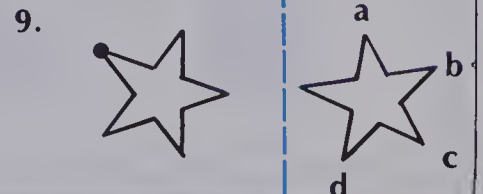
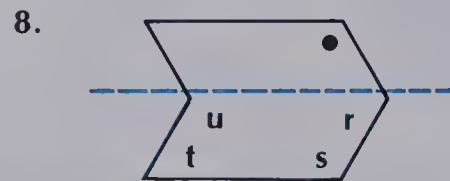
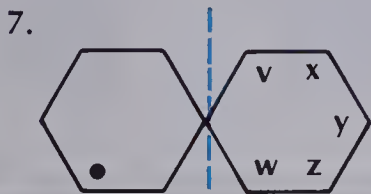


# PRACTICE

Copy the picture and the flip line. Finish the picture by completing the flip.



Where will the black dot be after each flip? Name the letter.



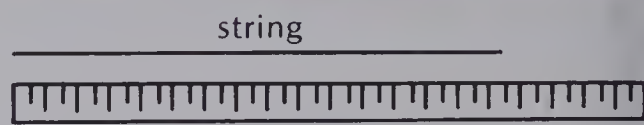
## Backward Glance

The shapes below are flips of three provinces.  
Name the provinces.



Sketch each province by drawing the original.

# Circles



The **circumference** of a circle is the distance around it.

## EXERCISES

Does the object have a face that is a circle?

1.
2.
3.
4.
5.

Where is the centre of each circle?

6.
7.
8.

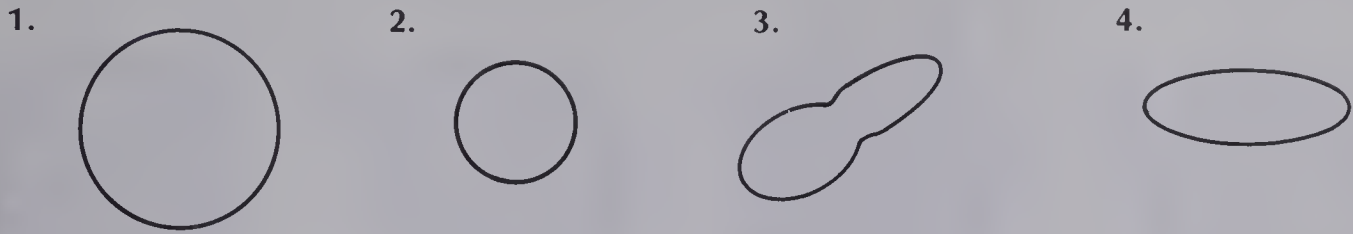
What is the circumference of each coin?

9. \_\_\_\_\_ string for the circumference of a dime
10. \_\_\_\_\_ string for the circumference of a nickel

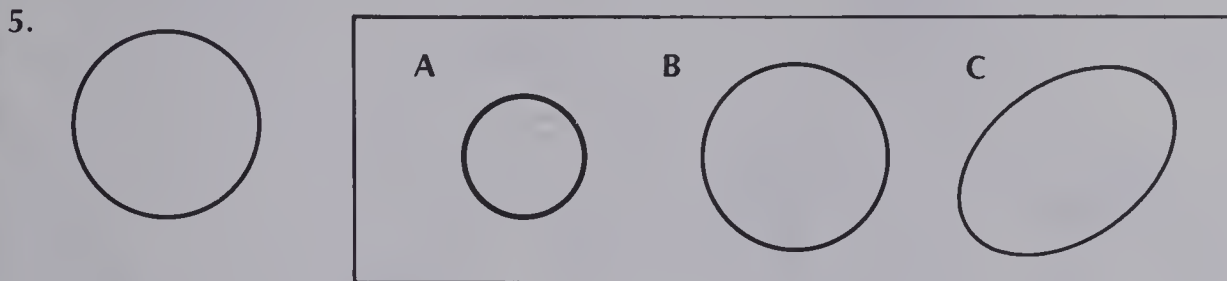


# PRACTICE

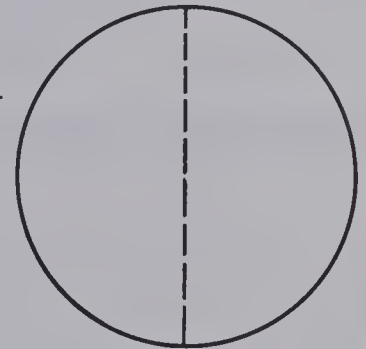
Is the figure a circle?



Which figure (A, B, or C) is congruent to the first figure?



6. Cut out a circle from a piece of paper.  
Fold the circle in half.  
Unfold the circle and fold it again in another place.  
Repeat once more.  
Mark the centre of the circle.  
Measure the length of each fold segment.  
Compare the lengths. What do you find?
7. How many lines of symmetry does a circle have?



## The Amazing Band

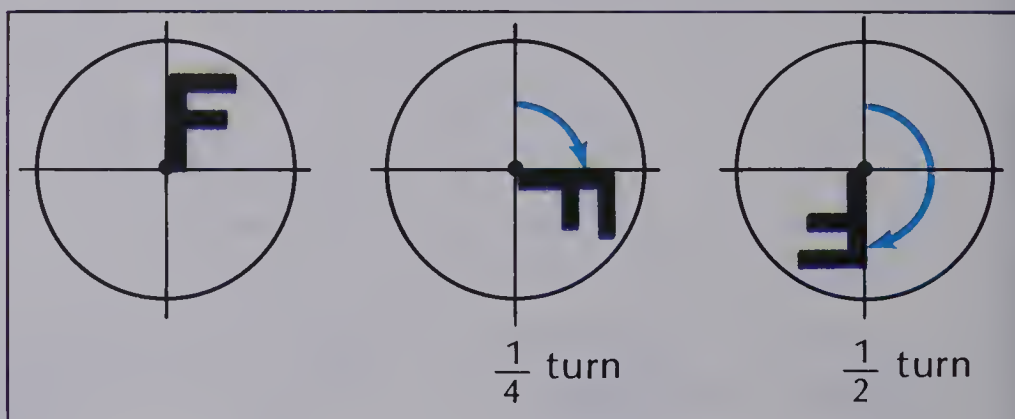
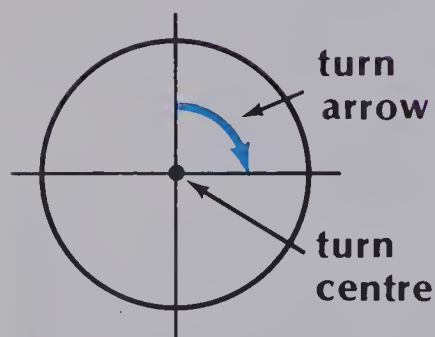
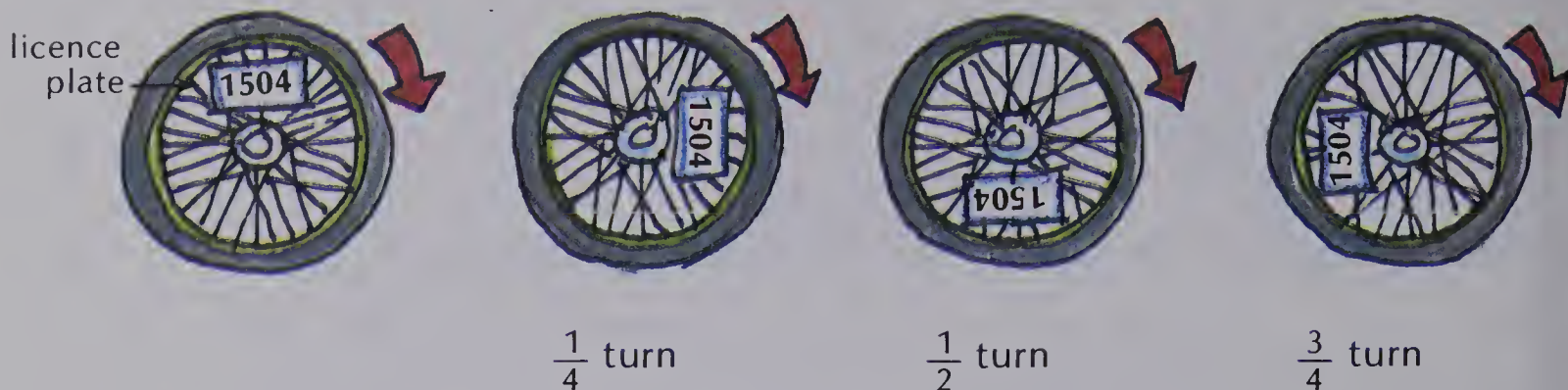
- Cut a strip of paper 30 cm long and 2 cm wide.  
Twist the paper once.  
Then glue the ends together.  
Draw a line along the strip.  
**Do not** lift your pencil once you have started.  
Continue the line.  
What happens to the line?  
Cut along the line you have drawn.  
What happens to the strip?





# Turns

The wheels on a bicycle **turn** as the bicycle moves forward.

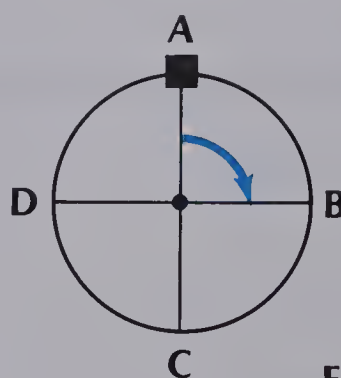


## EXERCISES

**Watch the turn arrow!**

Where will the square be after:

1. a quarter turn?
2. a half turn?
3. a three-quarter turn?



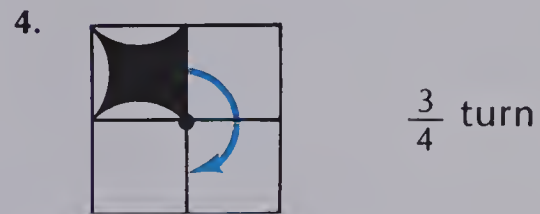
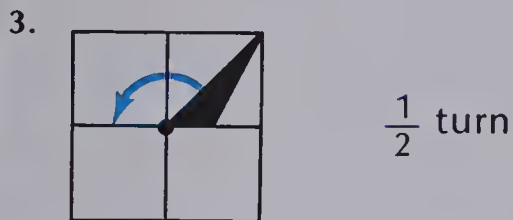
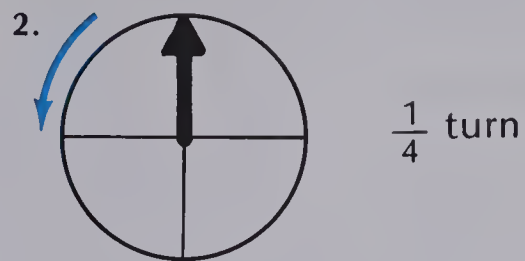
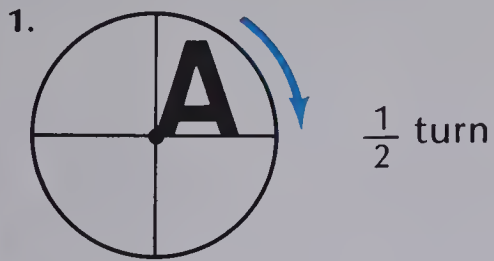
Where will the hexagon be after:

4. a quarter turn?
5. a half turn?
6. a three-quarter turn?

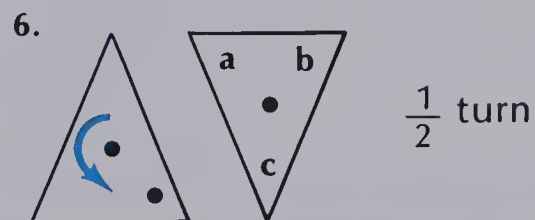
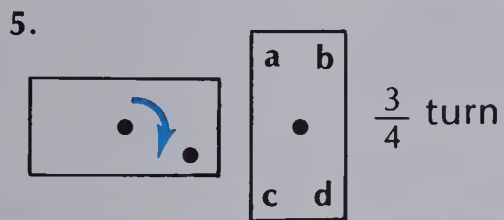


# PRACTICE

Copy the picture. Draw the turn as indicated.



Where will the black dot be after each turn? Name the letter.



# REVIEW

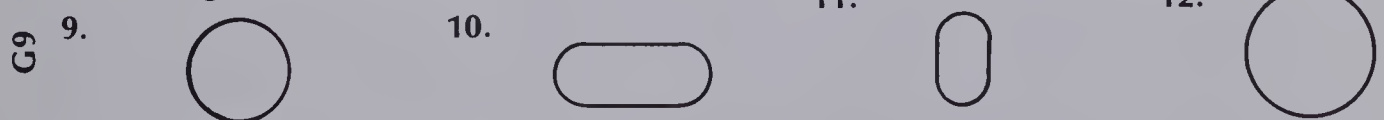
Does the drawing suggest a slide?



Does the drawing show a flip?



Is the figure a circle?



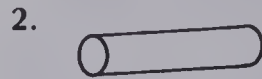
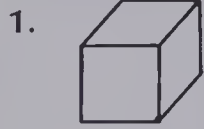
Does the drawing show a turn?



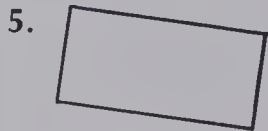
# TEST

# UNIT 12

Name each solid.

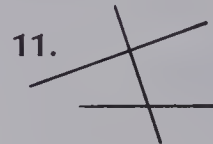


How many right angles are in each figure?

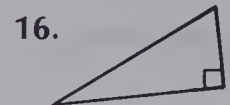


Does the figure have parallel lines?

Does it have perpendicular lines?



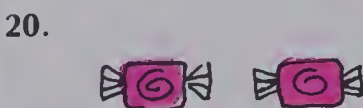
Name each figure.



Are the figures congruent?

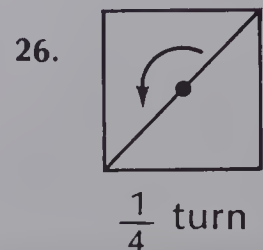
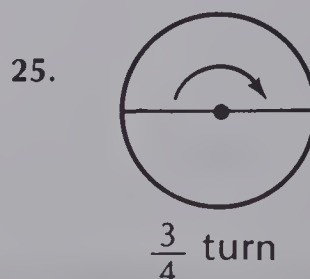
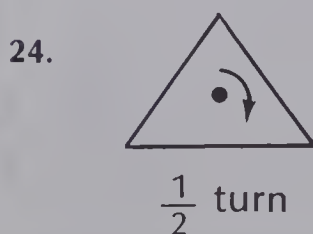


Does the figure suggest a flip or a slide?



23. Draw a circle and label the centre and the circumference.

Draw each figure after the turn.





## COMPUTATION: $\times$ , $\div$

Multiply.

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. $\begin{array}{r} 14 \\ \times 20 \\ \hline \end{array}$   | 2. $\begin{array}{r} 63 \\ \times 30 \\ \hline \end{array}$   | 3. $\begin{array}{r} 23 \\ \times 40 \\ \hline \end{array}$   | 4. $\begin{array}{r} 47 \\ \times 60 \\ \hline \end{array}$   | 5. $\begin{array}{r} 76 \\ \times 80 \\ \hline \end{array}$   |
| 6. $\begin{array}{r} 34 \\ \times 21 \\ \hline \end{array}$   | 7. $\begin{array}{r} 62 \\ \times 33 \\ \hline \end{array}$   | 8. $\begin{array}{r} 19 \\ \times 45 \\ \hline \end{array}$   | 9. $\begin{array}{r} 74 \\ \times 68 \\ \hline \end{array}$   | 10. $\begin{array}{r} 69 \\ \times 83 \\ \hline \end{array}$  |
| 11. $\begin{array}{r} 230 \\ \times 30 \\ \hline \end{array}$ | 12. $\begin{array}{r} 523 \\ \times 20 \\ \hline \end{array}$ | 13. $\begin{array}{r} 617 \\ \times 40 \\ \hline \end{array}$ | 14. $\begin{array}{r} 579 \\ \times 80 \\ \hline \end{array}$ | 15. $\begin{array}{r} 863 \\ \times 70 \\ \hline \end{array}$ |
| 16. $\begin{array}{r} 203 \\ \times 23 \\ \hline \end{array}$ | 17. $\begin{array}{r} 524 \\ \times 21 \\ \hline \end{array}$ | 18. $\begin{array}{r} 715 \\ \times 34 \\ \hline \end{array}$ | 19. $\begin{array}{r} 678 \\ \times 48 \\ \hline \end{array}$ | 20. $\begin{array}{r} 947 \\ \times 79 \\ \hline \end{array}$ |

Divide.

- |                         |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 21. $1 \overline{)456}$ | 22. $9 \overline{)999}$ | 23. $4 \overline{)884}$ | 24. $3 \overline{)936}$ | 25. $2 \overline{)468}$ |
| 26. $8 \overline{)896}$ | 27. $6 \overline{)684}$ | 28. $4 \overline{)892}$ | 29. $3 \overline{)957}$ | 30. $2 \overline{)656}$ |
| 31. $7 \overline{)903}$ | 32. $6 \overline{)870}$ | 33. $5 \overline{)625}$ | 34. $4 \overline{)768}$ | 35. $3 \overline{)777}$ |
| 36. $2 \overline{)849}$ | 37. $3 \overline{)675}$ | 38. $6 \overline{)871}$ | 39. $7 \overline{)888}$ | 40. $8 \overline{)909}$ |
| 41. $2 \overline{)461}$ | 42. $7 \overline{)749}$ | 43. $3 \overline{)928}$ | 44. $9 \overline{)986}$ | 45. $4 \overline{)721}$ |

Solve.

46. At a picnic, children got 4 free tickets for refreshments. 916 tickets were given out. How many children got the tickets?
47. A race was 3 laps around a track. The total distance was 510 m. How long was each lap?



# UNIT 13

## GRAPHS





# Souvenir Count

Skip count to find the number of items in each row.

1.

2

4

2.

5

10

3.

10

20

4.

50

100

5.

100

200

6.

500

1000

Record of Supplies			
Hats	$6 \times 2 =$	Pennants	$9 \times 5 =$
Programmes	$8 \times 10 =$	Pins	$8 \times 50 =$
Key chains	$7 \times 100 =$	Stickers	$7 \times 500 =$



# Charts and Tables



Here are some little-known circus facts.

Circus Facts

	Date	Place	Name of Owner
first known circus	1768	London, Eng.	Philip Astley
first circus in North America	1792	Philadelphia	J.B. Ricketts
first circus in Canada	1798	Quebec City	—
first circus in a tent	1826	—	—
first circus parade	1837	Albany, N.Y.	—
first 2-ring circus	1873	—	P.T. Barnum

## EXERCISES

Use the table to answer these questions.

1. When was the first known circus?
2. Where was the first circus in North America?
3. Who owned the first 2-ring circus?
4. What took place in Albany?
5. How many years was it from the first circus in North America to the first circus in Canada?
6. For what two facts do we not know the place?

Animal Leaps

	High (m)	Wide (m)
Sea lion	2.2	—
Kangaroo	3.0	7.5
Tiger	2.0	6.0
Impala	—	10.0

7. How high can a sea lion leap?
8. Which can leap higher, a tiger or a kangaroo?
9. How much wider can an impala leap than a tiger?
10. Which animal can leap the highest? the farthest?

# PRACTICE

## Circus Animals

	Mass (kg)	Length of Head and Body (cm)	Length of Tail (cm)
Brown Bear	250	200	7
Camel	600	325	—
Lion	250	190	100
Elephant	5000	500	120
Leopard	60	150	90

1. How heavy is an elephant?
2. How long is a brown bear's tail?
3. How long is a camel?
4. What is a lion's mass?
5. Which animals have a length greater than 300 cm?
6. Which animal listed has the least mass?

## Circus Attendance

	Day 1	Day 2	Day 3
Burnam	3075	4850	4100
Oakvale	2300	2920	3240
Laval	850	1030	1160

7. Which city had the highest attendance on Day 3?
8. On which day did Oakvale have its highest attendance?
9. Which city had an attendance below 1000 on Day 1?

## USING THE CALCULATOR


























Can you make the calculator display read 19, using only the **5** key and the operations **+** **×** **−** **÷** ?  
You must use an operation key after each 5.



# Pictographs

Carl wrote a letter to his father describing the circus he saw. He used pictures to tell about the animals.

Animals in the Circus

Elephants								
Bears								
Horses								
Dogs								
Lions								
Seals								

Each picture represents one animal.

## EXERCISES




Use the pictograph above to answer the questions.

1. What animals did Carl show on his graph?
2. What does each picture represent?
3. How many of each kind of animal were there?
4. What is the title of Carl's pictograph?

Janelle used pictures to show things the juggler used in his act.

5. How many objects does each picture represent?
6. How many hoops did the juggler use?
7. How many balls does a picture of half a ball represent?

The Juggler's Props

		
hoops	balls	clubs

Each picture represents two objects.



# PRACTICE

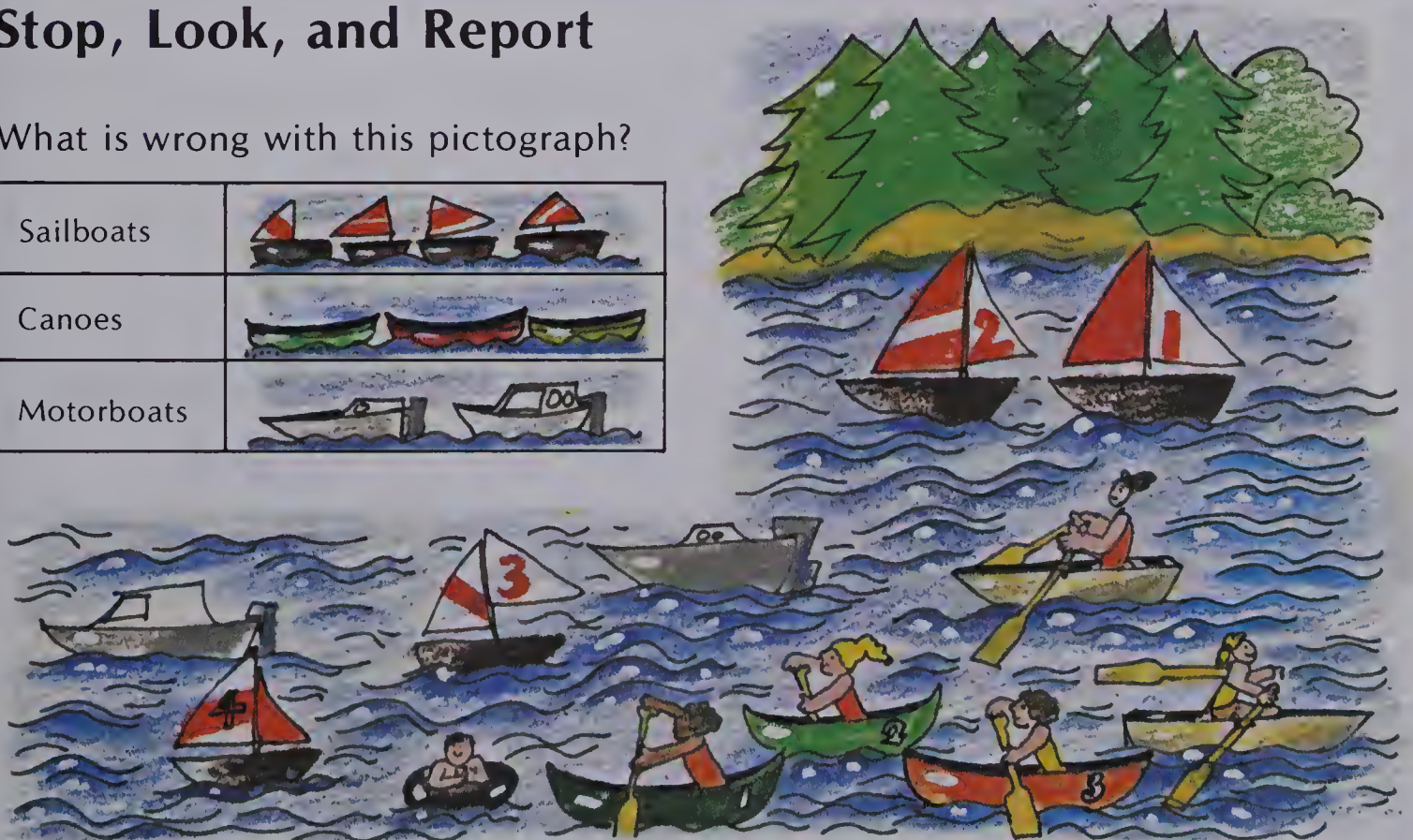
Make a pictograph.

1. At the circus, a boy was selling food to the people in the stands. At Carl's row he sold 2 bags of peanuts, 9 cans of pop, 5 ice cream bars, and 6 boxes of popcorn. Make a pictograph to show this. Use one picture for each item sold.
2. Make a pictograph to show the number of people waiting in a ticket line. There were 14 boys, 18 girls, 6 ladies, and 10 men. Use a picture of a face to represent two people.
3. Janelle's class put on a carnival at school. The Fortune Teller booth took in 16 tickets, the Fish Pond 25 tickets, and the Dog Show 10 tickets. Make a pictograph to show this. Let each drawing of a ticket represent two tickets.

## Stop, Look, and Report

What is wrong with this pictograph?


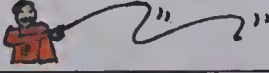

Sailboats	
Canoes	
Motorboats	



Make a new pictograph for the data in the picture.

# More Pictographs

Performers in Best Brothers' Circus

Acrobats	
Animal Trainers	
Clowns	

Each picture represents 5 people.






## EXERCISES

Use the pictograph to answer the questions.

1. How many people does each picture represent?
2. How many clowns are in the circus?
3. How many acrobats are there?
4. How many animal trainers are there?
5. How many more clowns than acrobats are in the circus?
6. What words help you understand the graph?

This pictograph shows how much food was sold at the circus in one day.

Food Sold in One Day

Hot dogs	
Hamburgers	
Popcorn	

Each picture represents 50 things.


7. What item was the best seller?
8. Which item had the least sales?
9. Why is one half a hamburger shown?
10. How many more hot dogs than hamburgers were sold?
11. Make a pictograph showing attendance at the circus. On Wednesday there were 150 people, Thursday 225, Friday 350, and Saturday 600. Use 1 picture to represent 50 people.




# PRACTICE

## Children's Tickets Sold at the Circus



 represents 100 tickets

1. How many children's tickets were sold on Thursday?
2. How many children's tickets were sold on Saturday?
3. On which day were the most children's tickets sold?
4. On which day were the least number of children's tickets sold?
5. Suppose each  on the graph above represented 10 tickets. How many tickets would have been sold on each day?
6. Rasheed made a pictograph for Children's Tickets Sold at the Circus. He used the information given in the graph at the top of this page. He drew pictures of tickets, but he did not leave a space between the tickets. What did his graph look like? Make a graph like his.



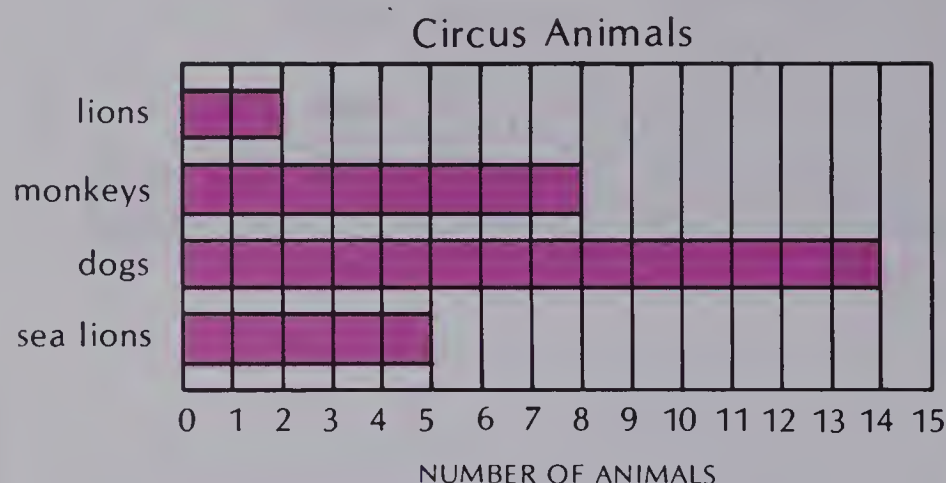
## Graph Your Own

Make a pictograph to show the number of students in each grade in your school. Let each picture represent 10 students. A half picture will represent 5 students. Round the number of students in each grade to the nearest 5 before drawing your graph.



# Bar Graphs

Sari counted certain animals in the circus.  
She made a bar graph.



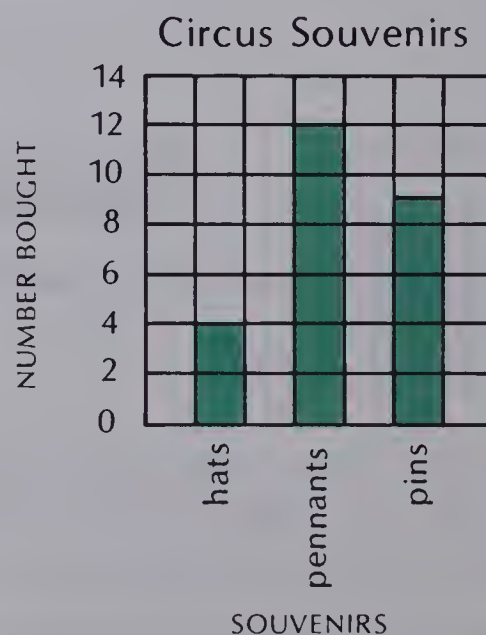
## EXERCISES

Use the bar graph above to answer these questions.

1. How many dogs were in the circus?
2. How many monkeys were in the circus?
3. Of which animal was there the fewest number?
4. What might be the reason Sari made a bar graph instead of a pictograph?

Rob made this vertical bar graph.

5. What souvenirs were sold?
6. How many pins were sold?
7. What was the greatest number of souvenirs sold?
8. How many more pennants than hats were sold?



# PRACTICE

Birthplace of Performers in Best Brothers' Circus

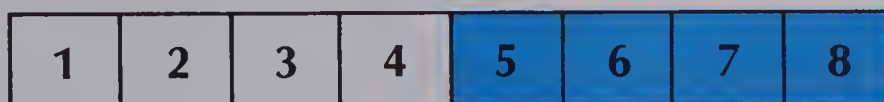


1. From which two countries do most of the performers come?
2. How many performers come from Sweden?
3. Each section on the graph represents how many performers?
4. How many more performers come from Germany than from Sweden?

tiger	2 km
lion	9 km
sea lion	3 km

5. Use the information on the left to make a bar graph for the distance an animal's roar can be heard.

## Breaking the Bar



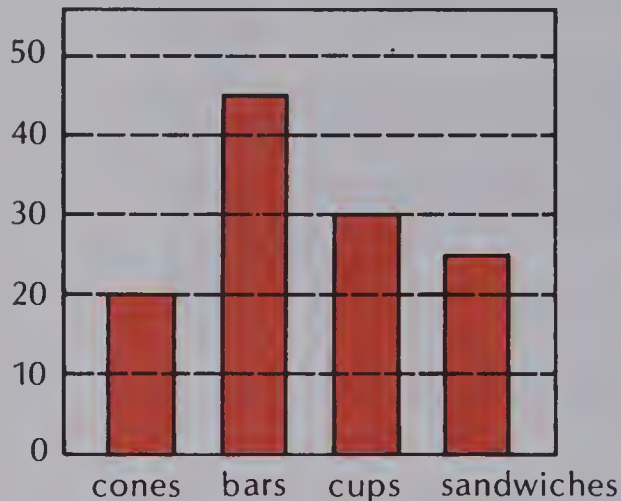
How can you rearrange the squares so that they form a row of alternating colours? Move two adjacent squares at a time. Do not change the order of the squares being moved.



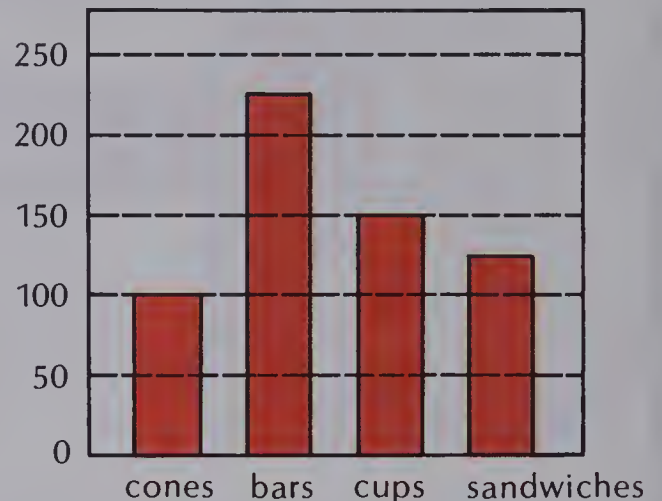
# Using Larger Numbers

A vendor kept a record of ice cream sales at the circus.

Daily Ice Cream Sales



Weekly Ice Cream Sales

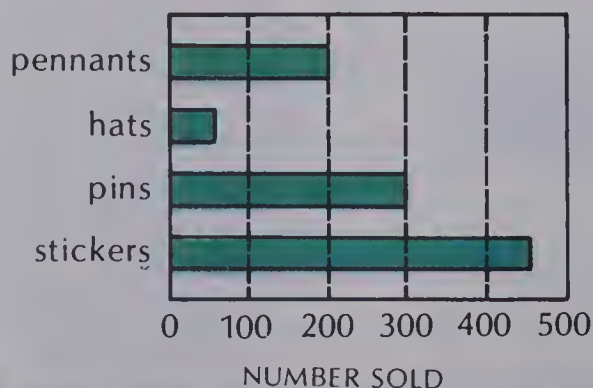


## EXERCISES

Use the graphs above to answer the questions.

1. How are the two graphs the same?
2. How are the two graphs different?
3. Which kind of ice cream was the best seller?
4. How many ice cream cones were sold in one day?
5. How many bars were sold in one week?
6. How many more bars than sandwiches were sold each day?

Wednesday Souvenir Sales

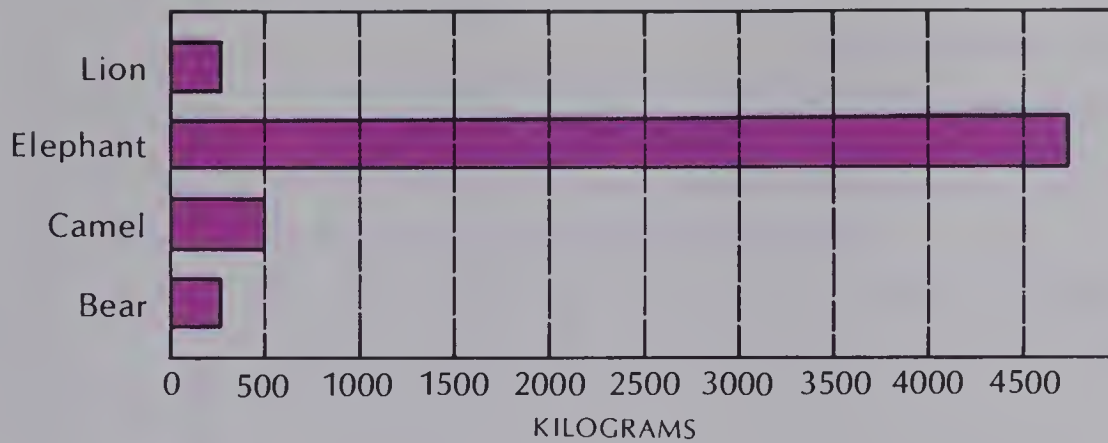


7. What was the total number of souvenirs sold on Wednesday?
8. Which souvenir was the best seller?
9. How many hats were sold?
10. How many stickers were sold?



# PRACTICE

Mass of Circus Animals



1. What is the mass of the heaviest animal?
2. Which two animals have the same mass?
3. The camel's mass is how much more than the bear's mass?
4. Does one elephant have a greater mass than a lion, a camel, and a bear together?

# REVIEW

GR1

1. Use the information in the chart to draw a pictograph. Let 1 picture represent 2 pieces of fruit.

Apples	2
Oranges	5
Pears	4

GR2

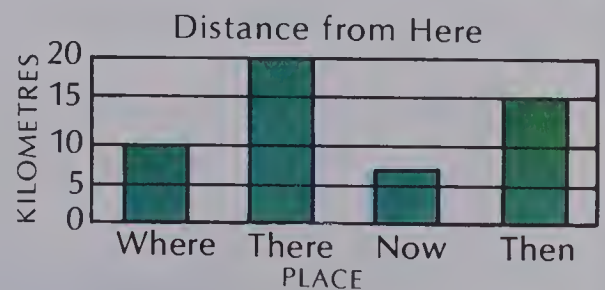
2. How many chocolates?
3. How many kisses?
4. How many more suckers than kisses?

Suckers	■ ■ ■
Kisses	■ ■
Chocolates	■ ■ ■ ■ ■

■ = 10 treats

GR3

5. City farthest from Here? How far?
6. City closest to Here? How far?



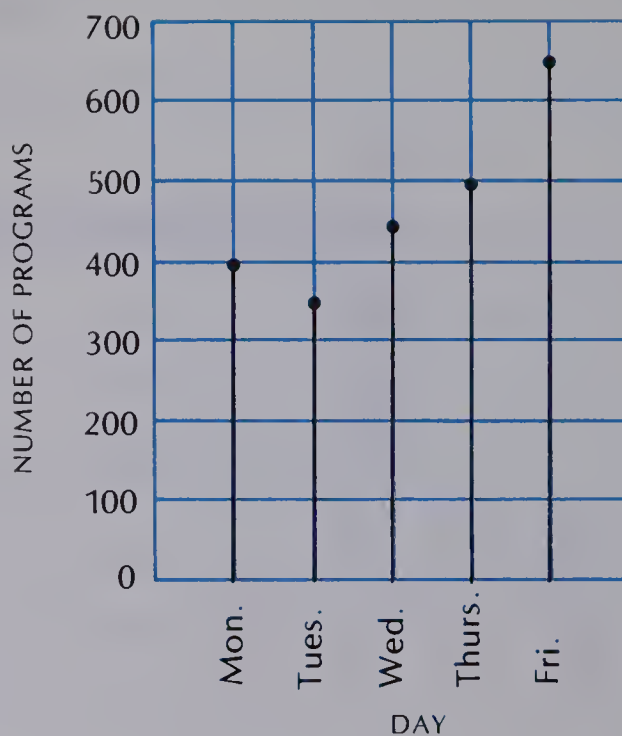
GR4

7. Make a bar graph to show 1000 pennies, 1500 nickels, 750 dimes, and 500 quarters.

# Point Graphs

George sold programs at the circus. He kept a record of the number of programs he sold each day.

Here is the graph he made to show his sales.



## EXERCISES

Use the graph above to answer the questions.

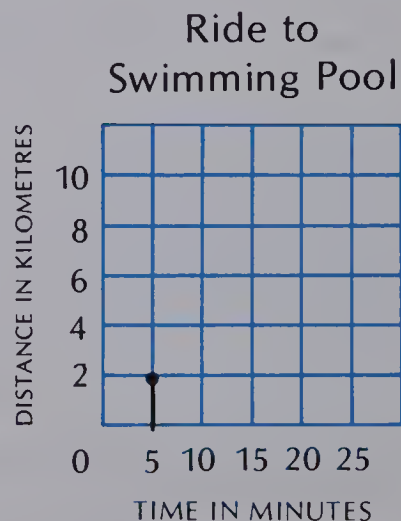
1. How many programs did George sell on Monday?
2. How many programs did he sell on Wednesday?
3. On which day did George sell the most programs?
4. On which day did he sell the fewest programs?
5. How many more programs did he sell on Thursday than on Monday?

Erika rode her bicycle 10 km to the swimming pool. She found she could go 2 km every 5 min.

6. Make a chart to show how far she had gone every 5 min.

minutes	5	10	15	20	25
kilometres	2				

7. Copy and finish the graph.



## PRACTICE

Make a point graph.

1. A large travelling circus has seats in the big top for 5000 people. In one city, the attendance was: Wednesday 3500 people, Thursday 3000 people, Friday 4500 people, and Saturday 5000 people. Make a point graph to show the attendance.

2. Make a point graph to show the information given in this chart.

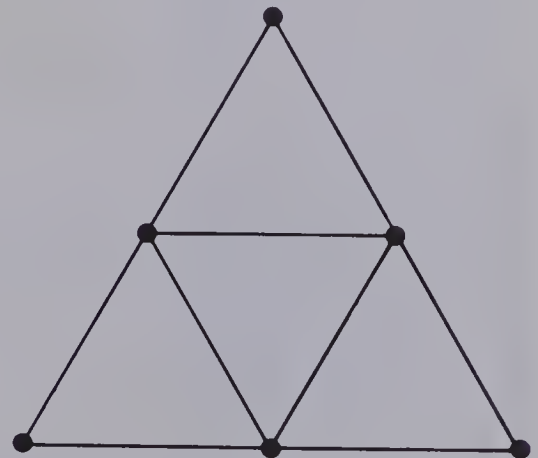
Time	8 A.M.	9 A.M.	10 A.M.	11 A.M.	12 NOON
Temperature	17°C	18°C	21°C	23°C	24°C

3. Marcia saved money to buy a bicycle. She saved \$2.50 the first week, \$10.00 the second week, \$5.00 the third week, and \$2.50 the fourth week. Make a point graph to show this information.
4. Keep a record of the outside temperature every hour from 9 A.M. to 4 P.M. one day. Make a point graph to show the temperature changes during this time.

## One Line

This figure can be drawn using one path, without lifting the pencil or retracing any segment. Use drawings to prove your answers.

- a. Can you trace the path starting from any vertex?
- b. Can you trace it changing direction exactly 7 times?
- c. Can you trace a path in more than 5 different ways from the top vertex?





# Locating Points

The parking lot at the circus was very large. To help people find their cars, the sections of the lot were marked with signs. The animal name and the row number helped people locate their cars.

6			F		B		6
5	D						5
4			■		E		4
3		A					3
2				C		H	2
1			G		★		1
	Bear	Lion	Tiger	Seal	Horse	Elephant	

The Delaney's car (■) is parked in section Tiger 4.

The Valdo's car (★) is parked in section Horse 1.

## EXERCISES

Give the location of each of the following vehicles. Name the animal first, then the row number.

- |          |            |            |
|----------|------------|------------|
| 1. Car A | 2. Truck B | 3. Bus C   |
| 4. Bus D | 5. Car E   | 6. Truck F |
| 7. Car G | 8. Car H   |            |

# PRACTICE

A map often has letters and numbers to help you locate places. Give the location of each of the following places. Name the number first, then the letter.

1. Circus tent
2. Store
3. Playground
4. Church
5. School
6. Lake
7. Fire Hall
8. Library

	1	2	3	4	5	6	
E	lake					circus tent	E
D		fire hall					D
C				church			C
B	store		library				B
A					school	play-ground	A
	1	2	3	4	5	6	

## Crack the Code

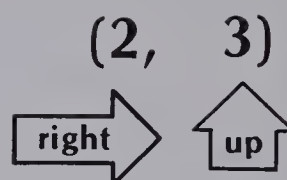
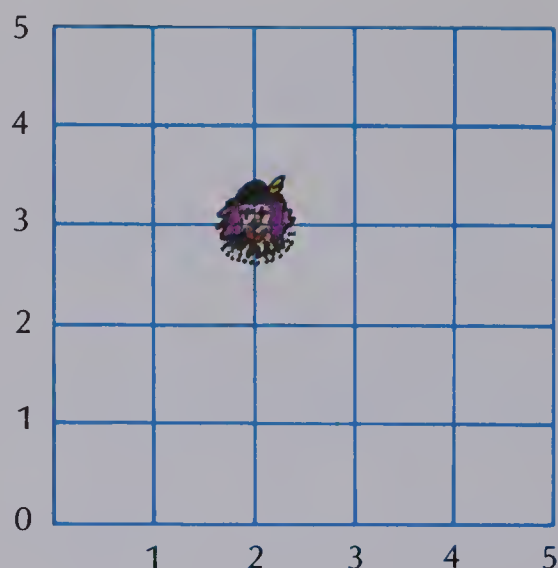
The dart board at the circus was divided into small squares. Each square had a letter in it. Marcus threw his darts at the board and recorded the order in which he hit the letters. Can you figure out what the letters spelled?

D	y	n	a	r
C	s	e	w	u
B	i	o	r	b
A	a	e	t	n
	1	2	3	4



1D 2B 4C 1A 4D 2C 3D 3C 1B 4A 2D 2A 3B

# Ordered Pairs



The clown is at the position (right 2, up 3), or (2,3).

(2,3) is the **ordered pair** which names the position of the clown on the grid.

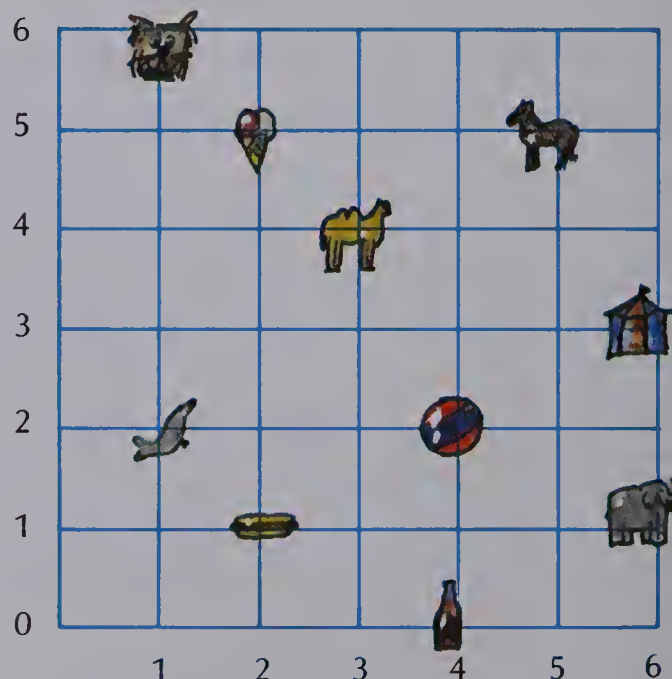
## EXERCISES

Use the grid on the right.

1. The ball is (right ■, up 2)
2. The horse is (right ■, up 5)
3. The seal is (right 1, up ■)
4. The elephant is (right 6, up ■)
5. The dog is (right ■, up ■)

Name the object that is located at the named point.

6. (2,1)
7. (6,3)
8. (3,4)
9. (4,0)
10. (2,5)

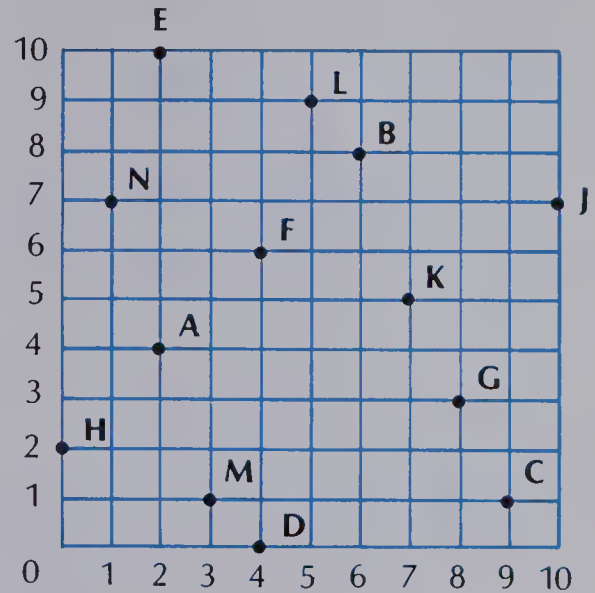




## PRACTICE

Write the letter name of the point located by each of the following ordered pairs.

1. (8,3)
2. (1,7)
3. (4,0)
4. (7,5)
5. (9,1)
6. (6,8)
7. (4,6)



Write the ordered pair that locates each of the following letters on the grid above.

- |      |      |       |       |       |
|------|------|-------|-------|-------|
| 8. E | 9. A | 10. H | 11. J | 12. L |
|------|------|-------|-------|-------|

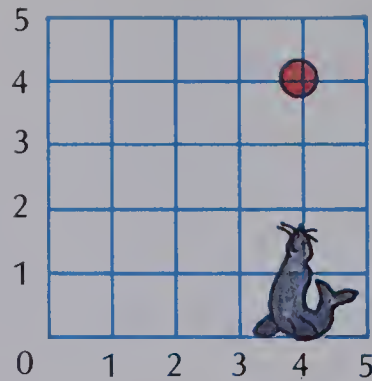
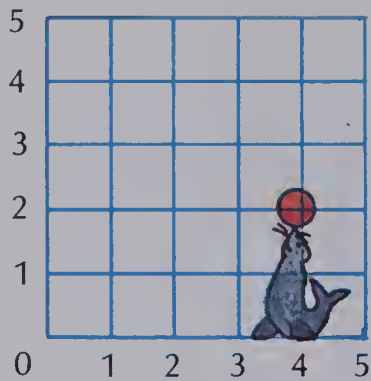
## Home Sweet Home

Mark the following points on a 10 × 10 grid. Join the points in the order in which they are given.

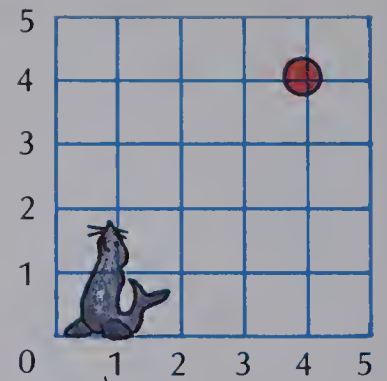
- |            |           |            |
|------------|-----------|------------|
| 1. (3,7)   | 2. (6,5)  | 3. (10,6)  |
| 4. (7,8)   | 5. (3,7)  | 6. (0,5)   |
| 7. (0,1)   | 8. (2,1)  | 9. (2,3)   |
| 10. (3,4)  | 11. (4,3) | 12. (4,1)  |
| 13. (6,1)  | 14. (6,5) | 15. (10,6) |
| 16. (10,2) | 17. (6,1) |            |



# Slides

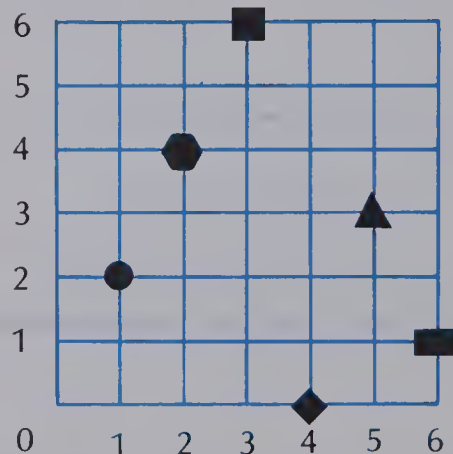


The ball **slides**  
up 2 units.



The seal **slides**  
left 3 units.

## EXERCISES



Slide the figure as indicated. Write the ordered pair of the new position.

1. Slide ● up 3
2. Slide ◆ left 2
3. Slide ■ down 5
4. Slide ■ up 4
5. Slide ● right 1
6. Slide ▲ left 5

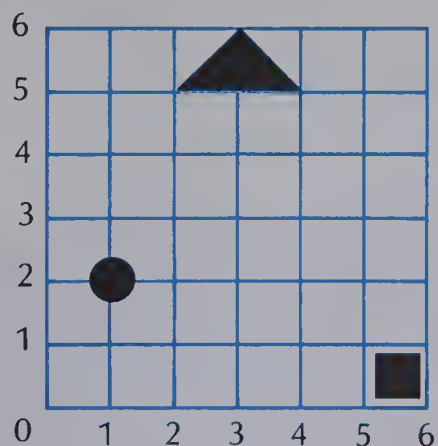
Write the slide direction.

7. ● to (0,2)
8. ◆ to (4,4)
9. ■ to (1,6)




Write the slide direction and distance.

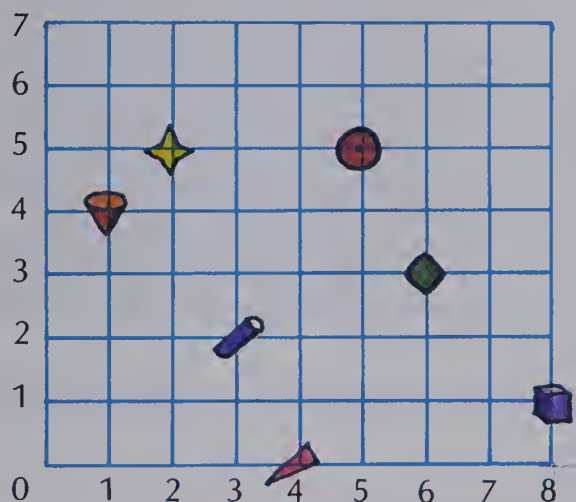
10. ■ to (2,1)
11. ● to (2,0)
12. ▲ to (5,6)

## PRACTICE







Copy the picture. Slide the figure as indicated.  
Draw the shape in its new location.




1. Slide  down 3
2. Slide  right 4
3. Slide  up 5



Write the slide direction and distance.

4.  to (7,5)
5.  to (1,1)
6.  to (3,0)
7.  to (1,6)

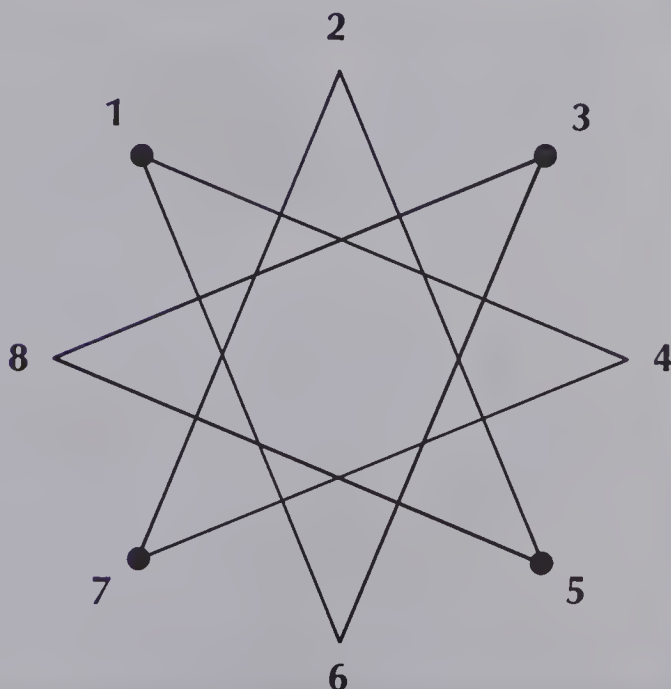
Write the ordered pair of the new position.

8. Slide  right 1
9. Slide  left 2, up 3
10. Slide  right 4, down 5

## Slippery Slides

Put red chips on 1 and 3.  
Put blue chips on 5 and 7.

Move the chips, one at a time, along the line segments to numbered points. A chip may not land on or pass another chip. Keep moving the chips until the red chips are on 5 and 7 and the blue chips are on 1 and 3.





# Using Diagrams



A farmer fenced off a pond to keep his cattle away from it. Each side had ten posts that held up a mesh fence. How many posts were used altogether?

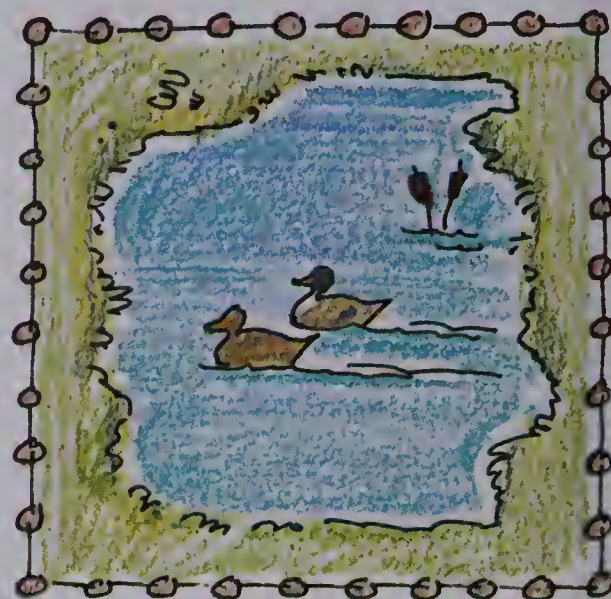


10 posts on each side.  
Draw a diagram to show this.

**Add** to find the number of posts used *altogether*.

$$10 + 10 + 8 + 8 = 36$$

There were 36 posts used altogether.



Solve.

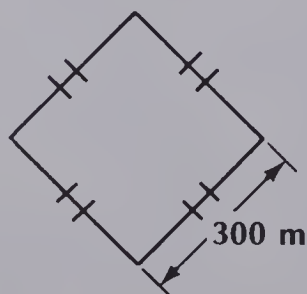
## EXERCISES

1.



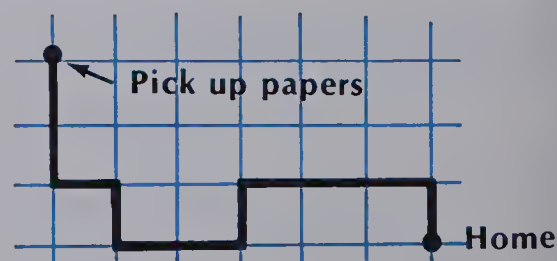
How many metres of fencing?

3.



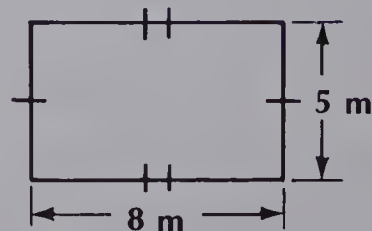
What is the perimeter?

2.



How long is the paper route?  
(in blocks)

4.



What is the area?

## PRACTICE

Make a diagram for each problem. Then solve the problem.

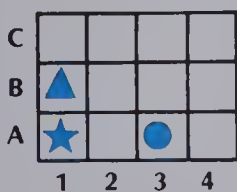
1. A new house was built in the shape of a hexagon. Each side was exactly 8 m long. What was the perimeter of the building?
2. Reg's bedroom is 4 m wide and 4 m long. How many square metres of carpet are needed to carpet his room?
3. A play area is in the shape of a triangle. Each side is 20 m long. Fence posts, 5 m apart, are put around it. How many fence posts are needed?
4. There are 8 cars lined up at a stop sign. Each of the cars is 4 m long. There is a 2 m space between each car and the car in front of it. How long is the line of cars?

## REVIEW

GR 5

1. John spent 10¢ Mon., 25¢ Tues., 55¢ Wed., and 30¢ Thurs. Make a point graph to show this.

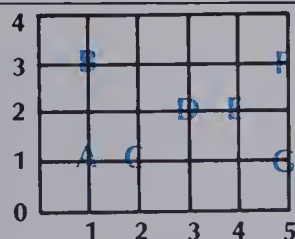
GR 6



Complete.

2. ★ is in square ■ A .
3. ▲ is in square 1■ .
4. ● is in square ■■ .

GR 7



Complete.

5. Letter ■ is at (2,1).
6. Letter ■ is at (1,3).
7. Letter ■ is at (4,2).

GR 8

Use the grid above to complete each sentence.

8. Slide A right 4. It will be where letter ■ is now.
9. Slide D left 2, down 1. It will be where letter ■ is now.

# TEST

# UNIT 13


1. How many stamps did Nicole save?

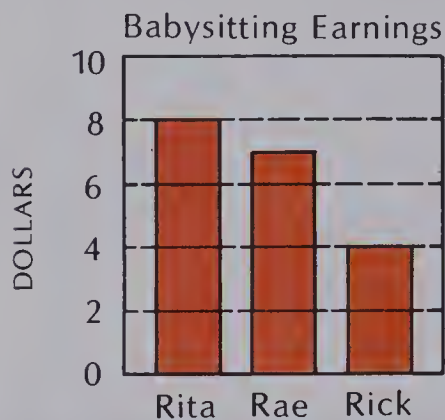
2. Who saved the most?

3. How many does a picture of half a stamp represent?

Stamps Saved

Nicole	
Pat	
Christina	

 represents 10 stamps

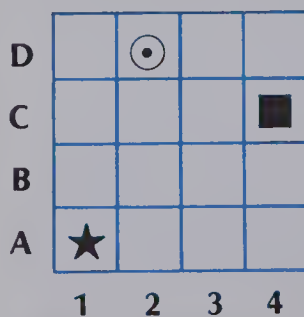


4. How much did Rita earn?

5. How much did Rick earn?

6. How much more did Rita earn than Rae?

7. Joe's marks in mathematics were: Mon. 85, Tues. 70, Wed. 95, Thurs. 85, and Fri. 100. Make a point graph to show this.



8. In what square is ★?


9. In what square is ⊙?

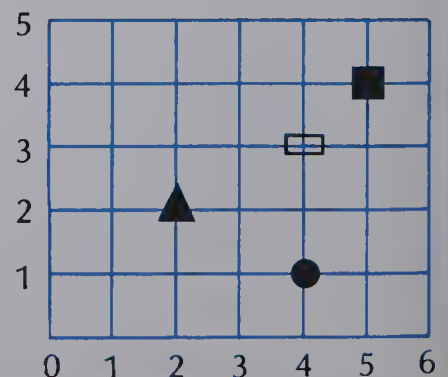
10. In what square is ■?

11. What ordered pair gives the location of ▲?

12. What figure is at (4,1)?

13. What ordered pair gives the location of ■?

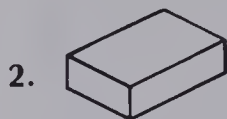
14. Slide  right 1, down 2. What is the ordered pair of its new location?



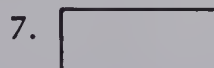


## GEOMETRY

Name each solid.

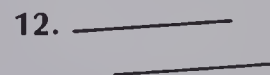
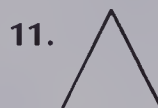
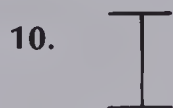


How many right angles are in each figure?

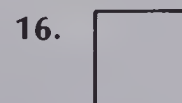
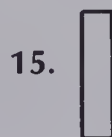


Does the figure have parallel lines?

Does it have perpendicular lines?



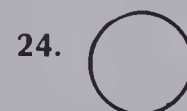
Is the figure a rectangle?



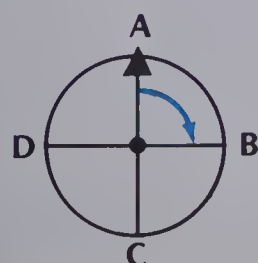
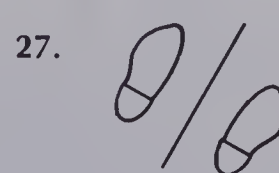
How many equal sides are there in each triangle?



Name each figure (pentagon, rectangle, triangle, or circle).



Does it look like a flip?

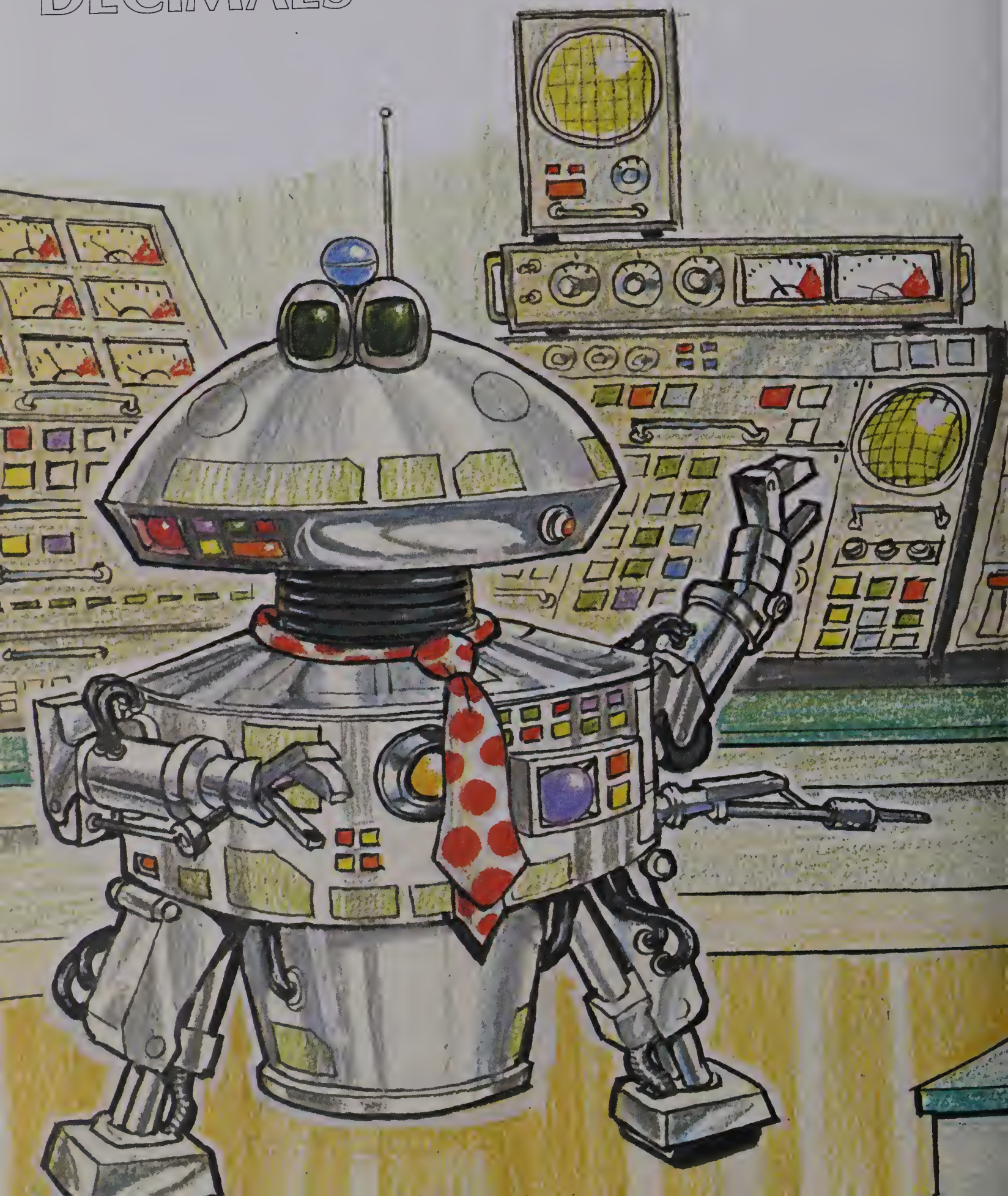


28. Where will the triangle be after a  $\frac{1}{2}$  turn?

29. Where will the triangle be after a  $\frac{1}{4}$  turn?

# UNIT 14

## DECIMALS





# Robot H2M2

Help **H2M2** find the missing people.

Write the letters of the alphabet in order. Then, counting by tenths, label the letters A = 0.1, B = 0.2, C = 0.3, and so on. Work the problems below. The answers should lead you to the missing people.

$$\begin{array}{r} 1. \quad 2.7 \\ - 1.5 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 1.1 \\ + 1.0 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 8.9 \\ - 7.8 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 9.7 \\ - 9.2 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 0.5 \\ + 1.4 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 7.4 \\ - 6.3 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 1.4 \\ + 1.1 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 1.3 \\ + 1.0 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 4.7 \\ - 4.6 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 7.1 \\ - 5.9 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 5.0 \\ - 3.9 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 6.3 \\ - 5.8 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 0.9 \\ + 0.9 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 4.2 \\ - 2.6 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 1.1 \\ + 0.7 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 9.3 \\ - 8.4 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 0.7 \\ + 0.7 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 7.1 \\ - 6.8 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 6.2 \\ - 5.7 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 1.3 \\ + 0.6 \\ \hline \end{array}$$

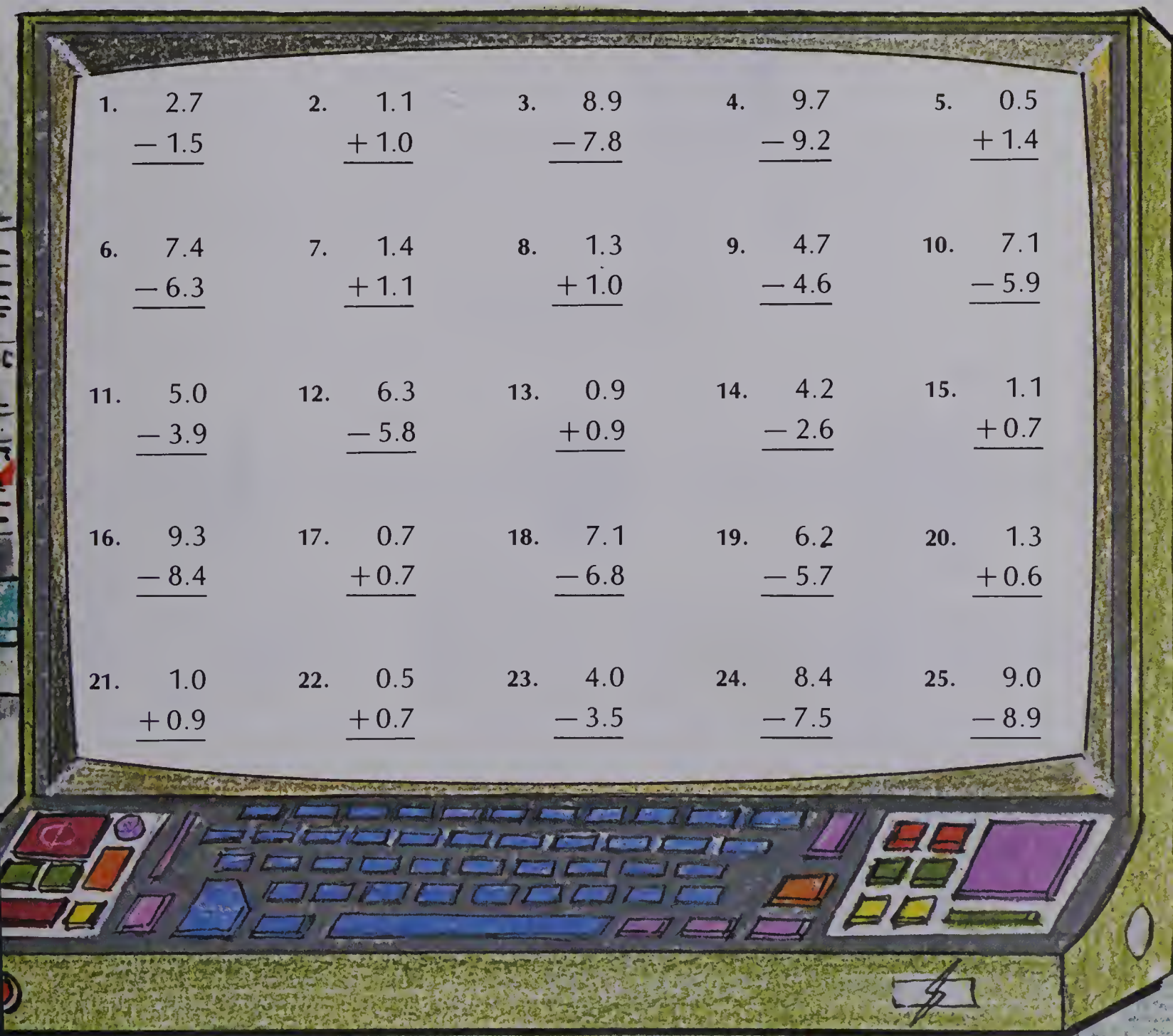
$$\begin{array}{r} 21. \quad 1.0 \\ + 0.9 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 0.5 \\ + 0.7 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 4.0 \\ - 3.5 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 8.4 \\ - 7.5 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad 9.0 \\ - 8.9 \\ \hline \end{array}$$





# Hundredths



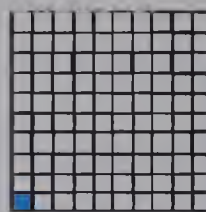
one

1      1.0



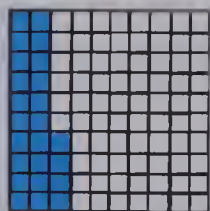
one tenth

$\frac{1}{10}$       0.1



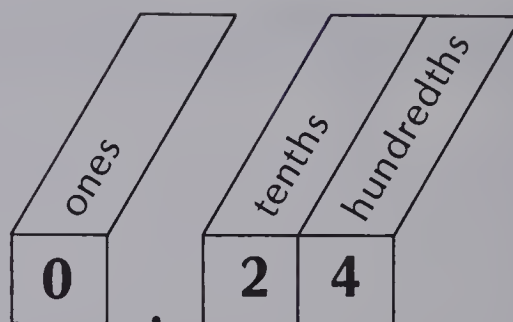
one hundredth

$\frac{1}{100}$       0.01



twenty-four hundredths

$\frac{24}{100}$       0.24



## EXERCISES

Complete.



■ hundredths



■ hundredths



■ hundredths

4.  $0.14 =$  ■ hundredths

5.  $0.82 =$  ■ hundredths

6.  $0.60 =$  ■ hundredths

7.  $0.03 =$  ■ hundredths

Write as a decimal.

8. 25 hundredths

9. 69 hundredths

10. 15 hundredths

11. 8 hundredths

12. 50 hundredths

13. 2 hundredths

14.  $\frac{26}{100}$

15.  $\frac{91}{100}$

16.  $\frac{44}{100}$

17.  $\frac{80}{100}$

18.  $\frac{3}{100}$

Which decimal is larger?

19. 0.37 or 0.73

20. 0.09 or 0.20

21. 0.54 or 0.52

# PRACTICE

Write as a fraction.

1. 0.12      2. 0.07      3. 0.83      4. 0.61      5. 0.50

Write the decimal.

6. 14 hundredths      7. 3 hundredths      8. 65 hundredths  
9. 91 hundredths      10. 70 hundredths      11. 5 hundredths

12.  $\frac{94}{100}$       13.  $\frac{42}{100}$       14.  $\frac{6}{100}$       15.  $\frac{25}{100}$       16.  $\frac{14}{100}$

Write using \$ and ¢.

17. 35¢      18. 16¢      19. 48¢      20. 5¢      21. 75¢

Which decimal is larger?

22. 0.20 or 0.02      23. 0.41 or 0.04      24. 0.07 or 0.12

Write each length in metres.

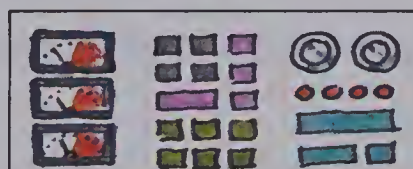
25. 54 cm      26. 28 cm      27. 61 cm      28. 9 cm      29. 73 cm  
30. 50 cm      31. 90 cm      32. 1 cm      33. 10 cm      34. 100 cm

## Place Values



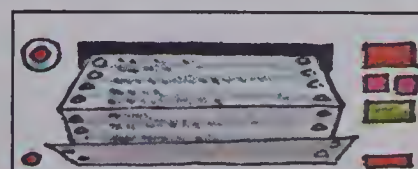
ones place?

32	2
35.6	
5.74	
162	
7.03	



tenths place?

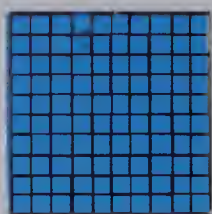
2.0	0
63.5	
7.45	
0.03	
12.4	



hundredths place?

0.06	6
0.76	
3.12	
1.401	
0.08	

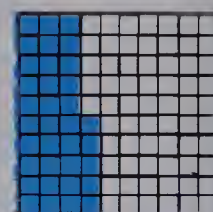
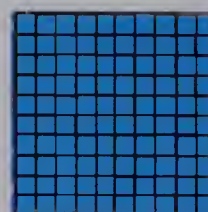
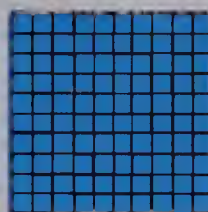
# Decimals Greater Than 1



one hundred **hundredths**

$$\frac{100}{100}$$

**1.00**



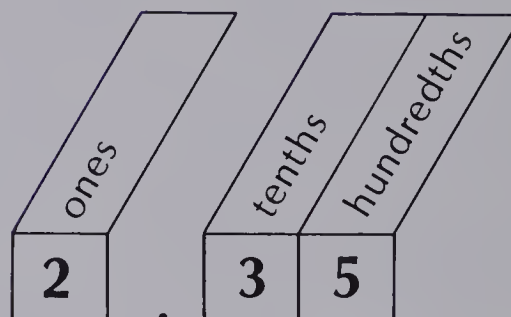
two hundred thirty-five **hundredths**

$$\frac{235}{100}$$

**2.35**

Read **2.35** as

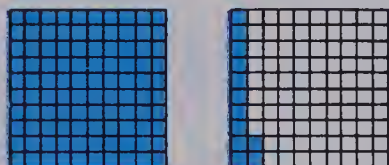
two **and** thirty-five hundredths



## EXERCISES

Write the fraction and the decimal that tell how much is shaded.

1.



2.



Complete.

3.  $4.18 = 4$  and  $\blacksquare$  hundredths

4.  $27.35 = 27$  and  $\blacksquare$  hundredths

5.  $91.05 = 91$  and  $\blacksquare$  hundredths

6.  $42.40 = \blacksquare$  and  $\blacksquare$  hundredths

Write as a decimal.

7. 57 hundredths

8. 2 and 15 hundredths

9. 14 and 39 hundredths

10. 28 and 7 hundredths

Compare the decimals. Use  $>$ ,  $<$ , or  $=$  for  $\blacksquare$

11.  $0.06 \blacksquare 0.09$

12.  $8.06 \blacksquare 8.09$

13.  $8.16 \blacksquare 8.19$

14.  $2.61 \blacksquare 8.01$

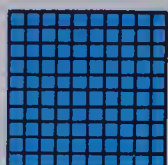
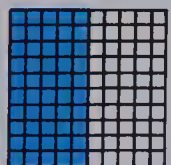
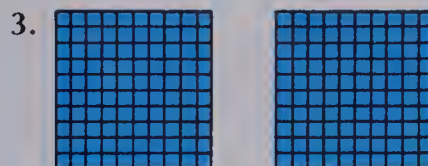
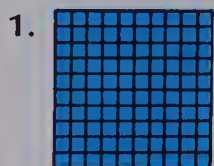
15.  $4.78 \blacksquare 3.78$

16.  $4.18 \blacksquare 4.81$



# PRACTICE

Write the decimal that tells how much is shaded.



Write as a decimal.

- |                         |                          |
|-------------------------|--------------------------|
| 4. 42 hundredths        | 5. 2 and 51 hundredths   |
| 6. 23 and 4 hundredths  | 7. 180 and 70 hundredths |
| 8. 16 and 50 hundredths | 9. 298 and 3 hundredths  |

Compare the decimals. Use  $>$ ,  $<$ , or  $=$  for  $\blacksquare$ .

- |                                  |                                |                                |
|----------------------------------|--------------------------------|--------------------------------|
| 10. 53.19 $\blacksquare$ 53.18   | 11. 90.21 $\blacksquare$ 92.01 | 12. 16.85 $\blacksquare$ 16.85 |
| 13. 123.51 $\blacksquare$ 123.49 | 14. 29.04 $\blacksquare$ 29.40 | 15. 26.3 $\blacksquare$ 26.30  |

Write the decimals in order, from smallest to largest.

16. 0.14, 0.40, 0.09, 0.32, 0.20, 0.36, 0.22
17. 0.97, 0.79, 0.07, 0.90, 0.19, 0.27, 0.17

## Super Saver

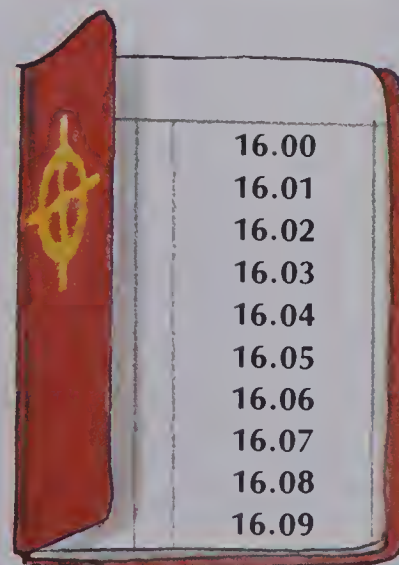
As Dino saves each cent in his bank, he writes the total in a record book. At the beginning of this month he had \$16.00. Now he has \$17.00. How many 6's did Dino write in his record book?

*Hints:*

How many of the 6s were in the ones place?

How many of the 6s were in the tens place?

How many of the 6s were in the hundredths place?

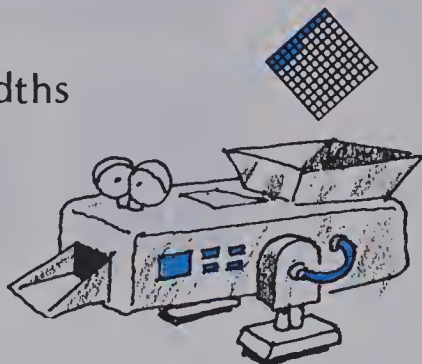


# Regrouping Tenths and Hundredths

Rewriter is a robot.

He rewrites a number so you can understand it.

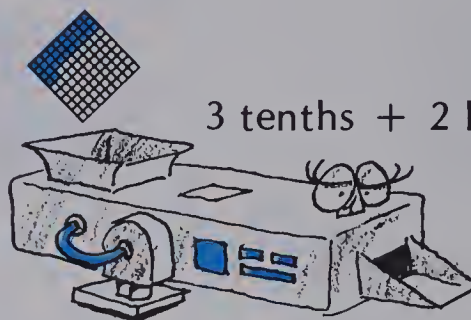
15 hundredths



$$\begin{aligned} &= 1 \text{ tenth} + 5 \text{ hundredths} \\ &= 0.15 \end{aligned}$$

Regrouper is another robot.

She regroups a number so you can subtract or add.



3 tenths + 2 hundredths

$$= 2 \text{ tenths} + 12 \text{ hundredths}$$

## EXERCISES

Rewrite each decimal.

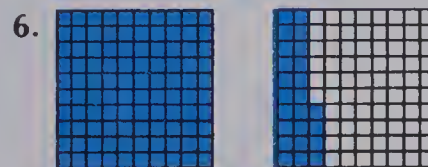
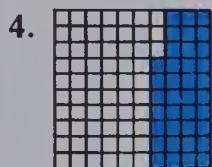
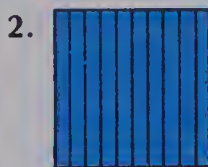
- 56 hundredths = ■ tenths + ■ hundredths = 0.56
- 31 hundredths = ■ tenths + ■ hundredths = ■■■
- 100 hundredths = ■ ones + ■ tenths + ■ hundredths = 1.00
- 136 hundredths = ■ ones + ■ tenths + ■ hundredths = ■■■
- 34 tenths = ■ ones + ■ tenths = 3.4
- 76 tenths = ■ ones + ■ tenths = ■■
- 6 tenths = ■ ones + ■ tenths = ■■

Regroup each decimal.

- 5 tenths + 3 hundredths = 4 tenths + ■ hundredths
- 8 tenths + 1 hundredth = 7 tenths + ■ hundredths
- 6 tenths + 4 hundredths = ■ tenths + 14 hundredths
- 2 ones + 7 tenths = ■ ones + 17 tenths
- 9 ones + 2 tenths = ■ ones + ■ tenths
- 12 hundredths = ■ tenth + 2 hundredths
- 13 tenths = ■ ones + 3 tenths
- 37 tenths = ■ ones + ■ tenths

# PRACTICE

Write the decimal.

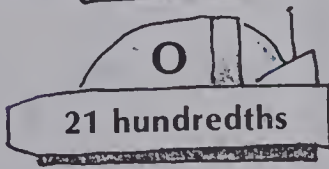
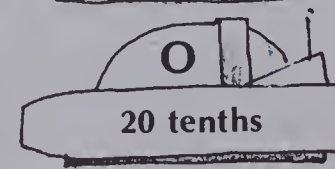
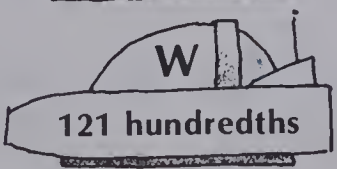
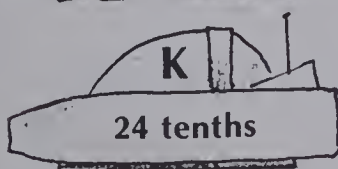
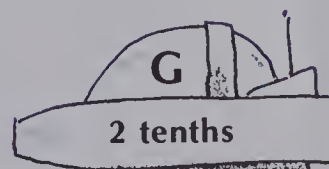
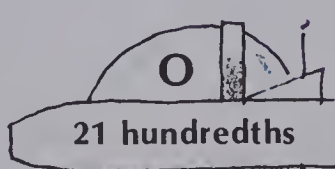
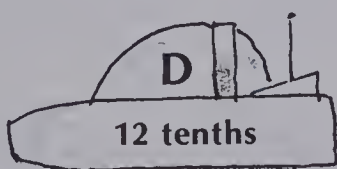


Write the decimal.

	ones	tenths	hundredths	decimal
7.	0	0	16	
8.	0	14	0	
9.	0	9	17	
10.	1	13	6	
11.	4	18	11	
12.	2	10	100	

## Order, Please

Put the numbers in order from smallest to largest. The letters will tell you if you have done it correctly.





# Adding Hundredths

Elizabeth used the adding machine in her mother's store to add 25.74 and 41.68. Then she wondered if she could do it by herself.



Keep the  
decimal points  
in a line.

$$\begin{array}{r} 25.74 \\ + 41.68 \\ \hline \end{array}$$

Add  
hundredths.

$$\begin{array}{r} 1 \\ 25.74 \\ + 41.68 \\ \hline 2 \end{array}$$

Add  
tenths.

$$\begin{array}{r} 11 \\ 25.74 \\ + 41.68 \\ \hline .42 \end{array}$$

Add  
ones.

$$\begin{array}{r} 11 \\ 25.74 \\ + 41.68 \\ \hline 7.42 \end{array}$$

Add  
tens.

$$\begin{array}{r} 11 \\ 25.74 \\ + 41.68 \\ \hline 67.42 \end{array}$$

To add decimals:

Keep place values aligned by lining up  
the decimal points. Then add.

## EXERCISES

Add.

1.  $\begin{array}{r} 5.23 \\ + 4.13 \\ \hline \end{array}$

2.  $\begin{array}{r} 57.24 \\ + 30.15 \\ \hline \end{array}$

3.  $\begin{array}{r} 72.63 \\ + 15.20 \\ \hline \end{array}$

4.  $\begin{array}{r} 93.66 \\ + 4.32 \\ \hline \end{array}$

5.  $\begin{array}{r} 631.45 \\ + 237.12 \\ \hline \end{array}$

6.  $3.08 + 2.61$

7.  $4.50 + 1.27$

8.  $6.25 + 2.71$

9.  $\begin{array}{r} 7.94 \\ + 1.23 \\ \hline \end{array}$

10.  $\begin{array}{r} 3.65 \\ + 4.27 \\ \hline \end{array}$

11.  $\begin{array}{r} 47.93 \\ + 20.35 \\ \hline \end{array}$

12.  $\begin{array}{r} 62.56 \\ + 12.67 \\ \hline \end{array}$

13.  $\begin{array}{r} 50.38 \\ + 30.92 \\ \hline \end{array}$

14.  $87.45 + 2.33$

15.  $4.71 + 25.03$

16.  $82.5 + 6.03$

17.  $\begin{array}{r} 63.69 \\ + 7.42 \\ \hline \end{array}$

18.  $\begin{array}{r} 407.39 \\ + 48.91 \\ \hline \end{array}$

19.  $\begin{array}{r} 82.89 \\ + 13.57 \\ \hline \end{array}$

20.  $\begin{array}{r} 4.86 \\ + 6.17 \\ \hline \end{array}$

21.  $\begin{array}{r} 1.57 \\ + 28.97 \\ \hline \end{array}$

## PRACTICE

Add.

1. 
$$\begin{array}{r} 3.58 \\ + 2.47 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 41.29 \\ + 13.04 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 32.68 \\ + 24.75 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 43.35 \\ + 51.89 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 65.18 \\ + 10.95 \\ \hline \end{array}$$

6.  $28.63 + 10.35$

7.  $20.93 + 52.67$

8.  $16.44 + 2.88$

9. 
$$\begin{array}{r} 51.49 \\ + 26.83 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 73.21 \\ + 20.99 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 9.38 \\ + 60.62 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 324.25 \\ + 100.75 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 587.64 \\ + 11.67 \\ \hline \end{array}$$

Solve.

14. Claude's father bought him a calculator for \$39.95. He bought himself a calculator with a time signal for \$59.95. How much did he pay for the two calculators?
15. Colette bought an eight-track tape for \$5.99 and two records at \$7.49 each. How much money did she spend altogether?
16. Ted timed his run. The first lap took him 45.08 seconds. The second lap took 45.20 seconds. The third lap took 41.15 seconds. What was his total time?

## Reverse the Digits

The digits of one of the numbers in each row have been reversed. Use a calculator to help you find the "backward" number.

- a.  $28.63 + 40.14 + 50.72 = 120.39$
- b.  $45.06 + 34.82 + 19.01 = 90.79$
- c.  $15.36 + 79.98 + 28.41 = 133.74$
- d.  $26.83 + 11.76 + 25.46 = 75.84$

# Subtracting Hundredths

Chang subtracted 34.81 from 59.30 on his hand calculator. He got 25.49. Chang thought he had made a mistake. He checked his work with paper and pencil. Was he right?



Keep the

decimal points  
in a line.

Subtract  
hundredths.

Subtract  
tenths.

Subtract  
ones.

Subtract  
tens.

$$\begin{array}{r} 59.30 \\ - 34.81 \\ \hline \end{array}$$

$$\begin{array}{r} 2\ 10 \\ 59.\cancel{3}0 \\ - 34.81 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 8\ 12\ 10 \\ 59.\cancel{3}0 \\ - 34.81 \\ \hline .49 \end{array}$$

$$\begin{array}{r} 8\ 12\ 10 \\ 59.\cancel{3}0 \\ - 34.81 \\ \hline 4.49 \end{array}$$

$$\begin{array}{r} 8\ 12\ 10 \\ 59.\cancel{3}0 \\ - 34.81 \\ \hline 24.49 \end{array}$$

The correct answer is 24.49.

To subtract decimals:

Keep place values aligned by lining up  
the decimal points. Then subtract.

## EXERCISES

Subtract.

1.  $\begin{array}{r} 3.75 \\ - 1.24 \\ \hline \end{array}$

2.  $\begin{array}{r} 9.28 \\ - 1.07 \\ \hline \end{array}$

3.  $\begin{array}{r} 8.64 \\ - 3.62 \\ \hline \end{array}$

4.  $\begin{array}{r} 42.87 \\ - 12.43 \\ \hline \end{array}$

5.  $\begin{array}{r} 86.59 \\ - 35.14 \\ \hline \end{array}$

6.  $5.83 - 2.51$

7.  $43.77 - 12.01$

8.  $89.27 - 26.05$

9.  $\begin{array}{r} 4.26 \\ - 2.73 \\ \hline \end{array}$

10.  $\begin{array}{r} 8.53 \\ - 1.28 \\ \hline \end{array}$

11.  $\begin{array}{r} 47.35 \\ - 1.51 \\ \hline \end{array}$

12.  $\begin{array}{r} 74.03 \\ - 9.42 \\ \hline \end{array}$

13.  $\begin{array}{r} 53.42 \\ - 10.75 \\ \hline \end{array}$

14.  $19.95 - 6.95$

15.  $24.32 - 3.09$

16.  $18.94 - 9.16$



# PRACTICE

Subtract.

$$\begin{array}{r} 1. \quad 9.80 \\ - 4.57 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 5.43 \\ - 2.08 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 64.75 \\ - 31.86 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 15.37 \\ - 10.59 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 76.60 \\ - 21.83 \\ \hline \end{array}$$

$$6. \quad 52.86 - 20.52$$

$$7. \quad 41.53 - 30.15$$

$$8. \quad 82.11 - 61.19$$

$$\begin{array}{r} 9. \quad 36.21 \\ - 5.95 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 80.90 \\ - 75.61 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 83.14 \\ - 62.27 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 84.35 \\ - 1.48 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 341.75 \\ - 200.68 \\ \hline \end{array}$$

Solve.

14. A radio-controlled robot is on sale for \$26.24. The regular price is \$34.98. How much money is saved by buying the robot at the sale price?

15. Mr. Shapiro bought a digital clock for his daughter. It cost \$23.97. He gave the cashier \$30. How much change did he receive?

# REVIEW

N14 Write as a decimal.  
1. 34 hundredths

2. 7 hundredths

3.  $\frac{80}{100}$

N15 Write as a decimal.  
4. 6 and 32 hundredths

5. 49 and 3 hundredths

A66 Add.  
6.  $\begin{array}{r} 4.12 \\ + 3.75 \\ \hline \end{array}$

7.  $\begin{array}{r} 74.03 \\ + 21.85 \\ \hline \end{array}$

8.  $\begin{array}{r} 32.58 \\ + 25.53 \\ \hline \end{array}$

9.  $\begin{array}{r} 72.34 \\ + 9.17 \\ \hline \end{array}$

A67 Subtract.  
10.  $\begin{array}{r} 7.45 \\ - 2.14 \\ \hline \end{array}$

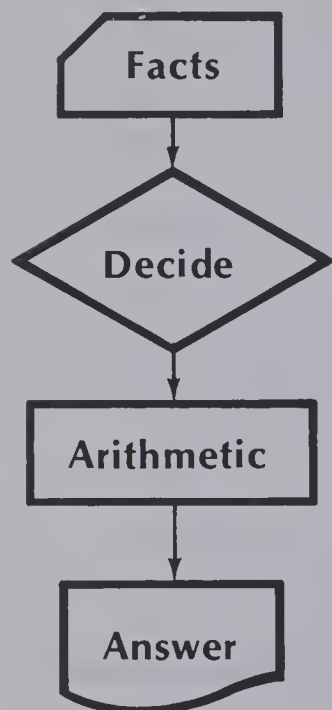
11.  $\begin{array}{r} 73.87 \\ - 11.23 \\ \hline \end{array}$

12.  $\begin{array}{r} 57.14 \\ - 13.72 \\ \hline \end{array}$

13.  $\begin{array}{r} 69.20 \\ - 5.88 \\ \hline \end{array}$

# Problem Solving

Joe took a pedometer along on a hike. It showed that he walked 2.4 km in one direction, then 1.3 km in another, and finally 3.5 km. How far did Joe walk in all?

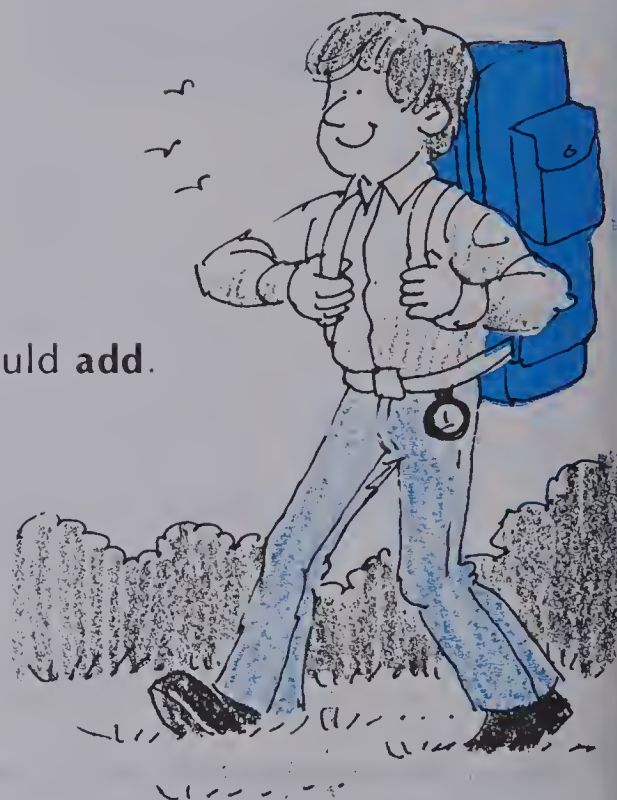


2.4 km in one direction  
1.3 km in another direction  
3.5 km in another direction

To find **how far in all**, you should **add**.

$$\begin{array}{r}
 1 \\
 2.4 \\
 1.3 \\
 + 3.5 \\
 \hline
 7.2
 \end{array}$$

He walked 7.2 km in all.



## EXERCISES

Solve.

1. Mr. Cribbs timed Nina's running with a stop watch. At the beginning of the summer, it took her 72.08 seconds to run 400 m. At the end of the summer, it took her 68.50 seconds. By how much did she improve her time?
2. Mrs. Sirek was filling her gas tank. When the meter read 26.4 L, she put in 0.8 L more. What did the meter read then?
3. Peter measured 2 bolts with a micrometer. One was 8.27 mm thick. The other bolt was 8.61 mm thick. What was the difference in thickness?

## PRACTICE

Solve.

1. Ms. Hamm bought 2 chairs. The cash register rang up \$64.89 and \$137.95. What total should it show?
2. The odometer on the Jackson's car read 21 048 km at the start of a trip. At the end of the trip it read 29 721 km. How far did they go?
3. June entered 14.6 on her abacus. Then she added 28.7. What number did her abacus show then?
4. A digital clock read 16:15 when Terry looked at it. Later it read 16:51. How many minutes had gone by?
5. Ben used a scale to find the mass of two bags of fruit. One was 5.27 kg and the other was 4.53 kg. What was the total mass of the fruit?
6. Jake took a pedometer along when he jogged. He jogged 5.6 km on Monday, 4.7 km on Wednesday, and 8.3 km on Friday. How far did he jog that week?

## Imagine

Use the numbers in the picture to make up a problem. Solve it.

A.

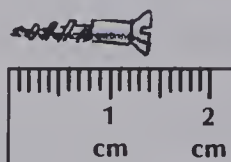


B.

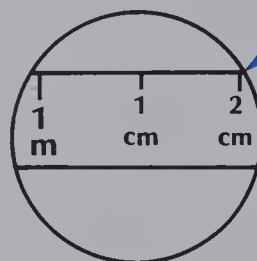




# Measuring in Tenths and Hundredths



14 mm  
= 1 cm and 4 mm  
= 1.4 cm



102 cm  
= 1 m and 2 cm  
= 1.02 m

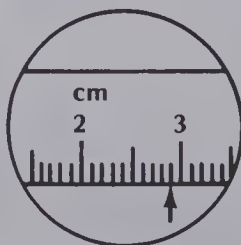
## EXERCISES

Copy and complete.

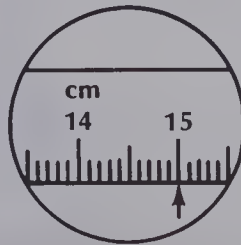
1. 21 mm = 2 cm and 1 mm = ■ cm
2. 89 mm = 8 cm and 9 mm = ■ cm
3. 40 mm = ■ cm and ■ mm = 4.0 cm
4. 8 mm = ■ cm and ■ mm = 0.8 cm
5. 62 mm = ■ cm and ■ mm = ■ cm
6. 50 mm = ■ cm and ■ mm = ■ cm
7. 4 mm = ■ cm and ■ mm = ■ cm
8. 149 cm = 1 m and 49 cm = ■ m
9. 356 cm = 3 m and 56 cm = ■ m
10. 207 cm = ■ m and ■ cm = 2.07 m
11. 415 cm = ■ m and ■ cm = ■ m
12. 68 cm = ■ m and ■ cm = ■ m

Write each measure to the nearest tenth of a centimetre.

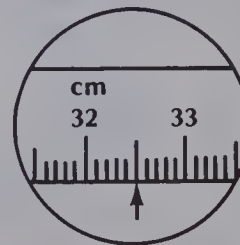
13.



14.

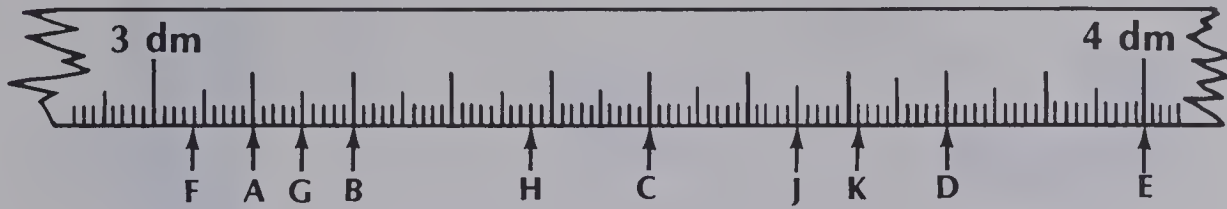


15.



# PRACTICE

A ruler was marked in decimetres, centimetres, and millimetres.



Write each measure to the nearest *tenth* of a decimetre.

1. A      2. B      3. C      4. D      5. E

Write each measure to the nearest *hundredth* of a decimetre.

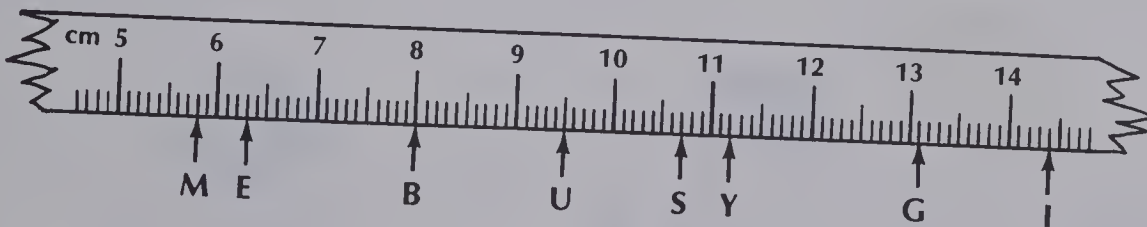
6. F      7. G      8. H      9. J      10. K

Copy and complete.

- |                             |                       |
|-----------------------------|-----------------------|
| 11. 5 m, 3 dm = ■ m         | 12. 9 cm, 1 mm = ■ cm |
| 13. 7 m, 4 dm, 1 cm = ■ m   | 14. 1 m, 4 cm = ■ m   |
| 15. 2 cm, 8 mm = ■ cm       | 16. 0 m, 4 dm = ■ m   |
| 17. 3 dm, 0 cm, 9 mm = ■ dm | 18. 6 dm, 0 cm = ■ dm |
| 19. 7 m, 0 dm, 0 cm = ■ m   | 20. 0 cm, 8 mm = ■ cm |

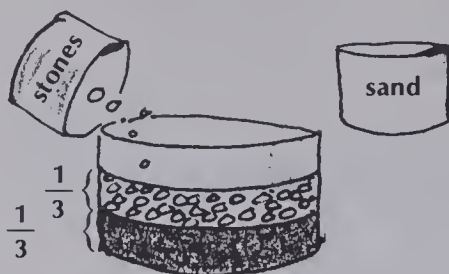
## Magnifying Measures

Copy the row of numbers on the bottom. Fill in the correct letter for each measure. You will get a message.

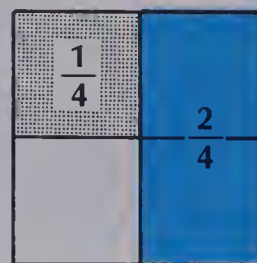


- |      |      |      |      |     |      |      |      |      |      |     |     |        |   |   |
|------|------|------|------|-----|------|------|------|------|------|-----|-----|--------|---|---|
| ■    | ■    | ■    | ■    | ■   | ■    | ■    | ■    | ■    | ■    | ■   | ■   | ■      | ■ | ■ |
| 11.2 | 1.13 | 10.7 | 14.4 | 5.8 | 1.60 | 1.81 | 1.28 | 1.55 | 2.07 | 6.3 | 9.5 | 1.94 ! |   |   |

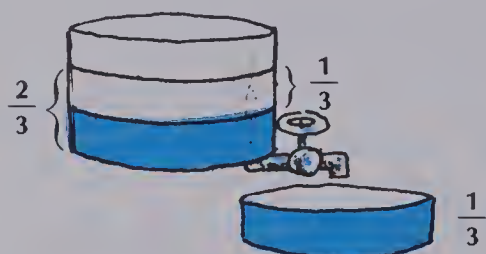
# Adding and Subtracting Fractions



$$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$$



$$\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$$




$$\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$$

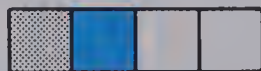



$$\frac{2}{4} - \frac{1}{4} = \frac{1}{4}$$


## EXERCISES


Add or subtract.


1.   
 $\frac{1}{3} + \frac{1}{3} = \frac{\blacksquare}{3}$


2.   
 $\frac{1}{4} + \frac{1}{4} = \frac{\blacksquare}{4}$


3.   
 $\frac{2}{5} + \frac{1}{5} = \frac{\blacksquare}{5}$


4.   
 $\frac{2}{4} + \frac{1}{4} = \frac{\blacksquare}{\blacksquare}$

5.   
 $\frac{3}{6} + \frac{1}{6} = \frac{\blacksquare}{\blacksquare}$

6.   
 $\frac{3}{4} - \frac{1}{4} = \frac{\blacksquare}{4}$

7.   
 $\frac{2}{3} - \frac{1}{3} = \frac{\blacksquare}{3}$

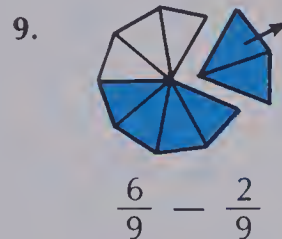
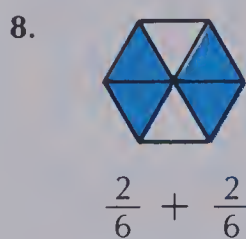
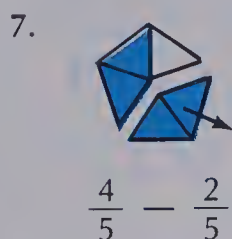
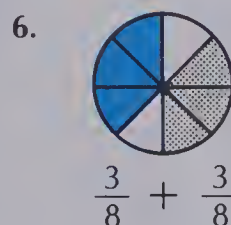
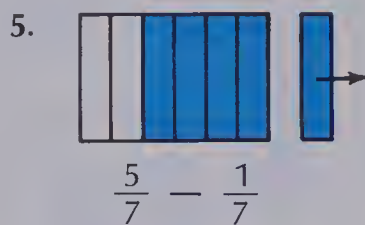
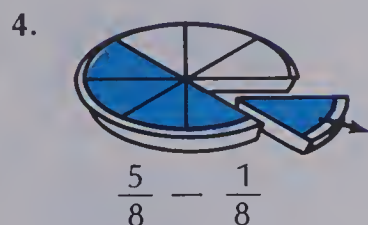
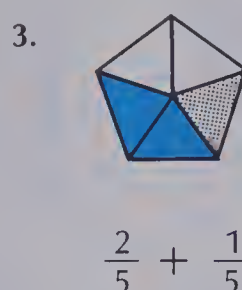
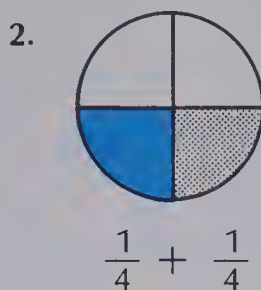
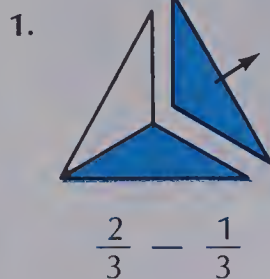
8.   
 $\frac{4}{5} - \frac{2}{5} = \frac{\blacksquare}{5}$

9.   
 $\frac{4}{8} - \frac{2}{8} = \frac{\blacksquare}{\blacksquare}$



# PRACTICE

Add or subtract.



10.  $\frac{4}{10} + \frac{3}{10}$

11.  $\frac{5}{10} - \frac{1}{10}$

12.  $\frac{5}{10} + \frac{4}{10}$

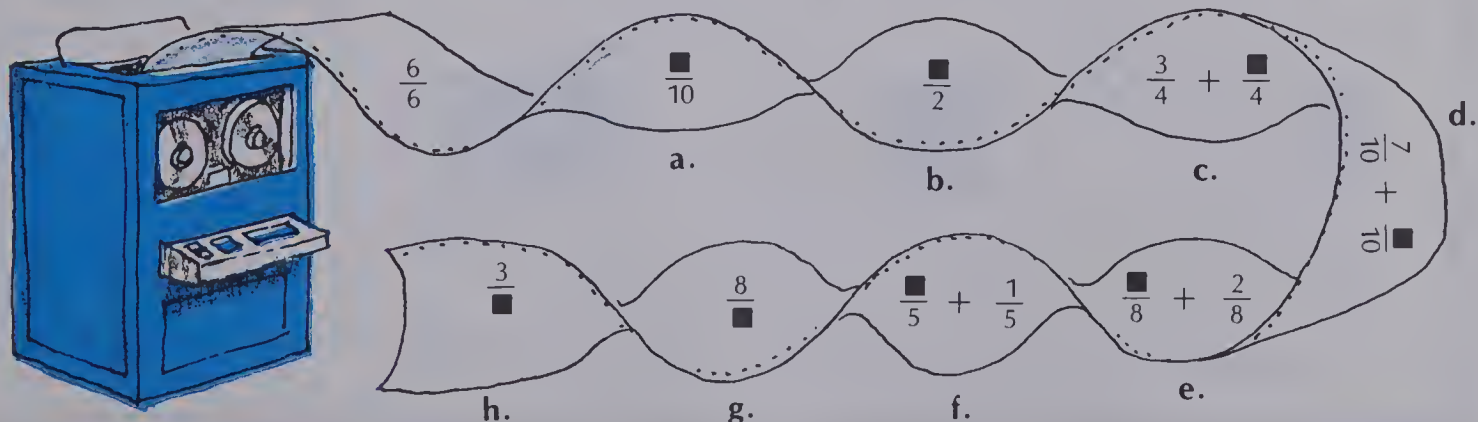
13.  $\frac{3}{5} + \frac{1}{5}$

14.  $\frac{4}{5} - \frac{2}{5}$

15.  $\frac{1}{5} + \frac{1}{5}$

## Looking Out for Number 1

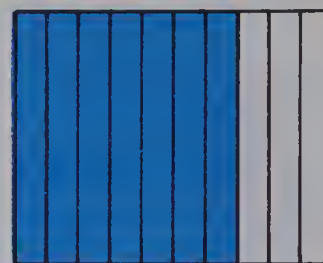
Computers don't see fractions very often.  
Help the computer complete each name for 1.



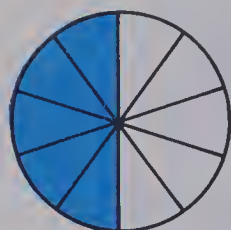
# Decimal Names for Fractions



$$\frac{1}{10} = 0.1$$

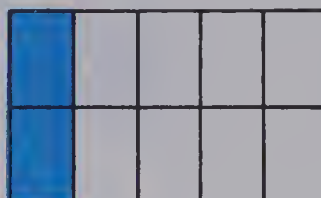


$$\frac{7}{10} = 0.7$$



$$\frac{1}{2} = \frac{5}{10}$$

$$\frac{1}{2} = 0.5$$



$$\frac{1}{5} = \frac{2}{10}$$

$$\frac{1}{5} = 0.2$$



$$\frac{2}{5} = \frac{4}{10}$$

$$\frac{2}{5} = 0.4$$

## EXERCISES

Write the fraction in words.



■ tenth



■ tenths



■ tenths



■ tenths

Use the picture to complete the sentence.



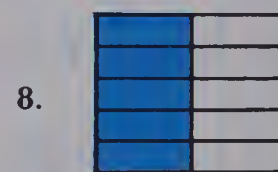
$$\frac{\blacksquare}{5} = \frac{\blacksquare}{10}$$



$$\frac{\blacksquare}{5} = \frac{\blacksquare}{10}$$



$$\frac{\blacksquare}{5} = \frac{\blacksquare}{10}$$



$$\frac{\blacksquare}{2} = \frac{\blacksquare}{10}$$

Write the decimal.



$$\frac{2}{10} = 0.\blacksquare$$



$$\frac{5}{10} = 0.\blacksquare$$



$$\frac{8}{10} = \blacksquare.\blacksquare$$



$$\frac{4}{10} = \blacksquare.\blacksquare$$

13.  $\frac{7}{10} = \blacksquare.\blacksquare$

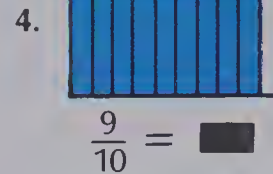
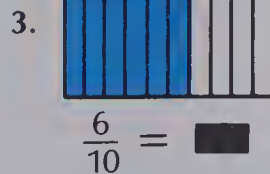
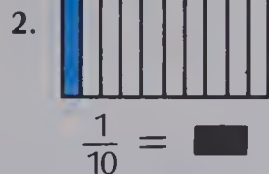
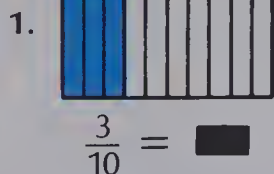
14.  $\frac{3}{10} = \blacksquare.\blacksquare$

15.  $\frac{1}{10} = \blacksquare.\blacksquare$

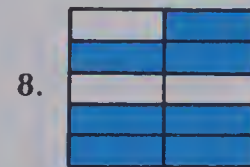
16.  $\frac{9}{10} = \blacksquare.\blacksquare$

# PRACTICE

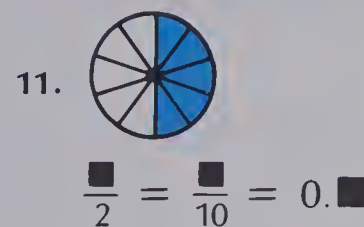
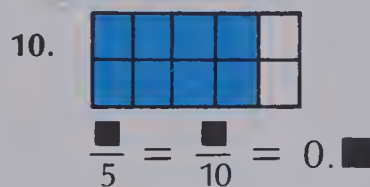
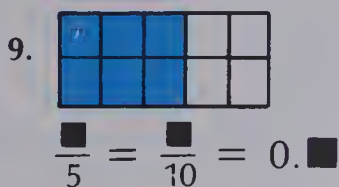
Write the decimal.



What part is shaded? Write the decimal.



Use the picture to complete the sentence.



Write the decimal.

12.  $\frac{7}{10}$

13.  $\frac{5}{10}$

14.  $\frac{1}{2}$

15.  $\frac{8}{10}$

16.  $\frac{1}{5}$

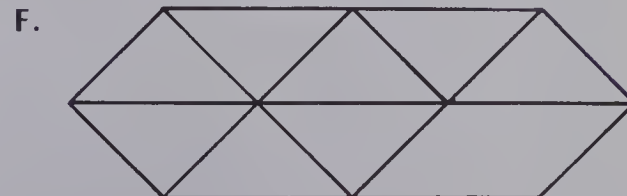
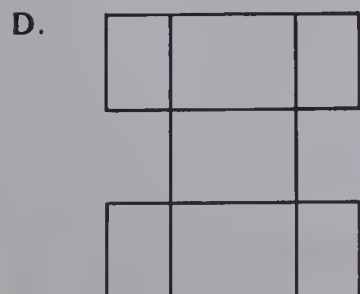
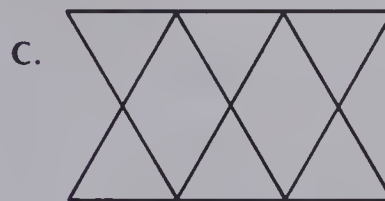
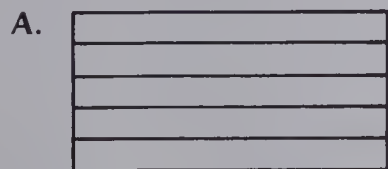
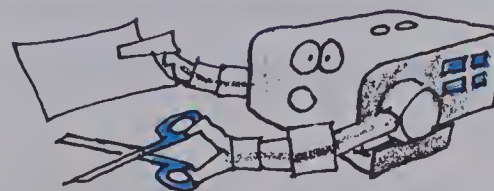
17.  $\frac{2}{5}$

18.  $\frac{4}{5}$

19.  $\frac{3}{5}$

## Drawing Your Attention

Trace these figures. Help the machine draw a straight line segment that cuts the figure into 10 equal parts.





# TEST

# UNIT 14

Write as a decimal.

1. 39 hundredths

2. 3 hundredths

3. 73 hundredths

4.  $\frac{4}{100}$

5.  $\frac{87}{100}$

6.  $\frac{34}{100}$

Compare the decimals. Use  $<$ ,  $>$ , or  $=$  for  $\blacksquare$ .

7. 14.53  $\blacksquare$  14.35

8. 0.1  $\blacksquare$  1.0

9. 289.39  $\blacksquare$  289.93

10. 64.5  $\blacksquare$  64.50

11. 12.09  $\blacksquare$  12.10

12. 0.12  $\blacksquare$  0.08

Add or subtract.

13. 
$$\begin{array}{r} 4.27 \\ + 8.19 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 39.08 \\ + 6.54 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 264.71 \\ + 51.38 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} \$35.97 \\ + 25.03 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 5.92 \\ - 3.98 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 64.15 \\ - 7.36 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 803.09 \\ - 46.10 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} \$162.88 \\ - 83.49 \\ \hline \end{array}$$

21.  $\frac{1}{2} + \frac{1}{2}$

22.  $\frac{1}{5} + \frac{3}{5}$

23.  $\frac{3}{4} - \frac{1}{4}$

24.  $\frac{5}{8} - \frac{4}{8}$

25.  $\frac{1}{6} + \frac{1}{6}$

26.  $\frac{4}{5} - \frac{1}{5}$

27.  $\frac{6}{10} - \frac{3}{10}$

28.  $\frac{2}{8} + \frac{3}{8}$

Regroup.

29. 6 tenths + 2 hundredths = 5 tenths +  $\blacksquare$  hundredths

30. 8 ones + 1 tenth =  $\blacksquare$  ones +  $\blacksquare$  tenths

31. 32 mm =  $\blacksquare$  cm and  $\blacksquare$  mm =  $\blacksquare\blacksquare$  cm

32. 113 cm =  $\blacksquare$  m and  $\blacksquare$  cm =  $\blacksquare\blacksquare$  m

Write as a decimal.

33.  $\frac{3}{10}$

34.  $\frac{1}{2}$

35.  $\frac{4}{5}$

36.  $\frac{7}{10}$

37.  $\frac{1}{5}$

38. A radio mast in Poland is 646.36 m tall. A television mast in North Dakota is 628.80 m tall. How much taller is the radio mast?

## GRAPHS

- How many girls are in grades 1 to 6?
- Which grades have the least number of boys?
- Are there more boys or more girls in grades 10 to 12?

School Enrolment

	Girls	Boys
Grades 1 to 6	8637	8803
Grades 7 to 9	4208	4215
Grades 10 to 12	5136	4792

Students in Fairville Schools

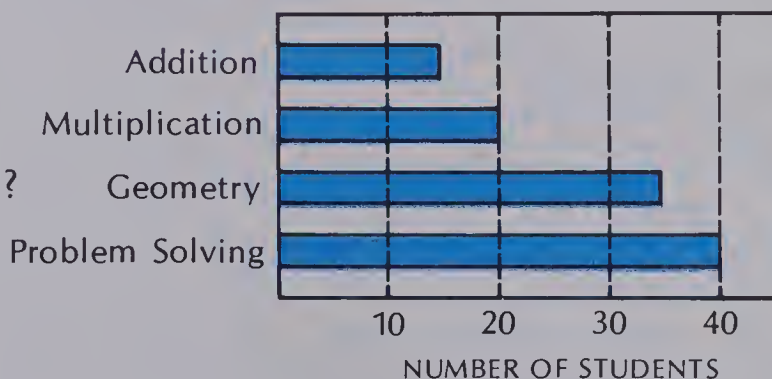
Central	XXXX
Eastern	XXXX
Western	XXX
Southern	XX

X represents 100 students.

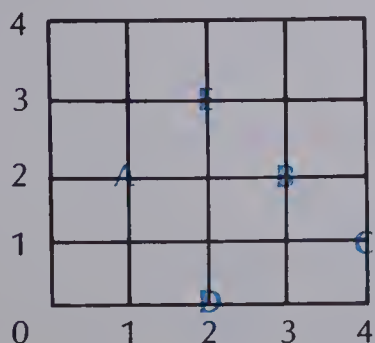
- How many students does each picture represent?
- How many students attend Central School?
- How many students attend the 4 schools in Fairville?

- Which topic was chosen by 20 students?
- How many students chose Geometry as their favourite?

Arithmetic Favourites



- Make a point graph to show the number of days in February, March, April, and May of this year.



- What ordered pair gives the location of A?
- What letter is at (2,3)?
- Slide D right 1, up 3. What is its new location?

# Cumulative Test

## UNITS 1-4

Copy and complete. Use  $<$ ,  $=$ , or  $>$  for  $\blacksquare$ .

1.  $23 \blacksquare 32$

2.  $91 \blacksquare 91$

3.  $\$0.51 \blacksquare \$0.49$

4.  $926 \blacksquare 962$

5.  $710 \blacksquare 701$

6.  $2873 \blacksquare 2900$

Write in standard form.

7. 8 hundreds + 2 tens + 3 ones

8. 5 hundreds + 0 tens + 6 ones

9. twenty-nine thousand three

10. six hundred thousand six hundred

Write in expanded form.

11. 62 803

12. 1459

13. 708 043

Round to the nearest ten. Round to the nearest hundred.

14. 956

15. 82 615

16. 3074

Add or subtract.

17. 
$$\begin{array}{r} 6 \\ + 7 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 8 \\ + 5 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 13 \\ - 6 \\ \hline \end{array}$$

20.  $3 + 9$

21.  $15 - 7$

22. 
$$\begin{array}{r} 35 \\ + 40 \\ \hline \end{array}$$

23. 
$$\begin{array}{r} 87 \\ - 53 \\ \hline \end{array}$$

24. 
$$\begin{array}{r} 46 \\ + 7 \\ \hline \end{array}$$

25. 
$$\begin{array}{r} 89 \\ + 4 \\ \hline \end{array}$$

26. 
$$\begin{array}{r} 53 \\ - 2 \\ \hline \end{array}$$

27. 
$$\begin{array}{r} 2 \\ 1 \\ + 6 \\ \hline \end{array}$$

28. 
$$\begin{array}{r} 5 \\ 7 \\ + 3 \\ \hline \end{array}$$

29. 
$$\begin{array}{r} 18 \\ 34 \\ + 29 \\ \hline \end{array}$$

30. 
$$\begin{array}{r} 436 \\ + 261 \\ \hline \end{array}$$

31. 
$$\begin{array}{r} 827 \\ - 305 \\ \hline \end{array}$$

Solve.

32. There were 3 blue marbles, 5 green marbles, and 7 red marbles in a bag. How many marbles were in the bag?



Add or subtract.

$$\begin{array}{r} 33. \quad 35 \\ + 49 \\ \hline \end{array}$$

$$\begin{array}{r} 34. \quad 67 \\ + 13 \\ \hline \end{array}$$

$$\begin{array}{r} 35. \quad 51 \\ - 34 \\ \hline \end{array}$$

$$\begin{array}{r} 36. \quad 80 \\ - 52 \\ \hline \end{array}$$

$$\begin{array}{r} 37. \quad 46 \\ + 286 \\ \hline \end{array}$$

$$\begin{array}{r} 38. \quad 167 \\ + 453 \\ \hline \end{array}$$

$$\begin{array}{r} 39. \quad 6514 \\ + 896 \\ \hline \end{array}$$

$$\begin{array}{r} 40. \quad 326 \\ - 189 \\ \hline \end{array}$$

$$\begin{array}{r} 41. \quad 8026 \\ + 1694 \\ \hline \end{array}$$

$$\begin{array}{r} 42. \quad 3784 \\ - 1096 \\ \hline \end{array}$$

$$\begin{array}{r} 43. \quad 138 \\ 275 \\ + 354 \\ \hline \end{array}$$

$$\begin{array}{r} 44. \quad 6000 \\ - 2194 \\ \hline \end{array}$$

$$\begin{array}{r} 45. \quad 2195 \\ 384 \\ + 3670 \\ \hline \end{array}$$

$$\begin{array}{r} 46. \quad \$9.68 \\ - 3.56 \\ \hline \end{array}$$

$$\begin{array}{r} 47. \quad \$8.34 \\ - 6.35 \\ \hline \end{array}$$

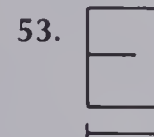
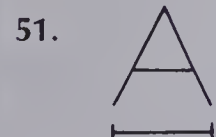
What is the missing number?

48.  $1 \text{ km} = \blacksquare \text{ m}$

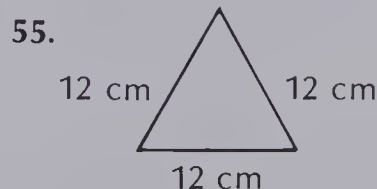
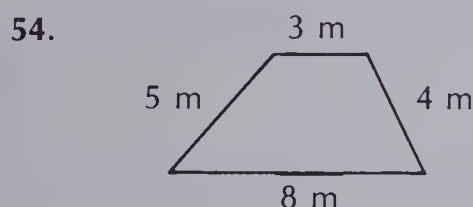
49.  $10 \text{ mm} = \blacksquare \text{ cm}$

50.  $\blacksquare \text{ L} = 1000 \text{ mL}$

Find the width of each letter.



Find the perimeter.



What is the change:

56. for \$0.56 from \$1.00?

57. for \$3.64 from \$5.00?

Solve.

58. A city sold 3000 bicycle licences. 1327 of the bicycles were owned by girls. How many bicycles were owned by boys?

59. A concert was attended by 2106 people in the afternoon and 3025 in the evening. How many people attended that day?

# Cumulative Test

## UNITS 5-7

Write a multiplication sentence.

1.  $7 + 7 + 7 + 7 = 28$

2.  $3 + 3 + 3 + 3 + 3 + 3 = 18$

Write an addition sentence.

3.  $3 \times 8 = 24$

4.  $2 \times 0 = 0$

5.  $5 \times 9 = 45$

Multiply.

6. 
$$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 1 \\ \times 9 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 3 \\ \times 0 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 10 \\ \times 2 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 0 \\ \times 8 \\ \hline \end{array}$$

Write a division sentence.

16.  $5 \times 6 = 30$     17.  $9 \times 9 = 81$     18.  $4 \times 0 = 0$     19.  $10 \times 7 = 70$

Write a multiplication sentence.

20.  $64 \div 8 = 8$     21.  $70 \div 10 = 7$     22.  $3 \div 1 = 3$     23.  $35 \div 5 = 7$

Divide.

24.  $2 \overline{)18}$

25.  $5 \overline{)15}$

26.  $1 \overline{)8}$

27.  $7 \overline{)56}$

28.  $8 \overline{)48}$

29.  $6 \overline{)54}$

30.  $4 \overline{)4}$

31.  $10 \overline{)100}$

32.  $21 \div 7$

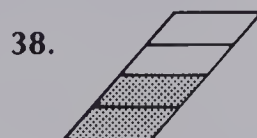
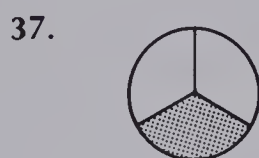
33.  $0 \div 3$

Solve.

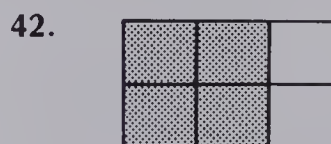
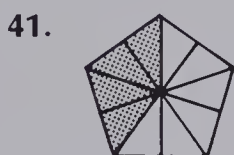
34. An arithmetic test had 5 rows of questions. Each row had 5 questions in it. How many questions were on the test?

35. Frank's paper route covers 8 blocks. He delivers 72 papers. Each block has the same number of customers. How many papers does he deliver in each block?

Write a fraction for the shaded part.



Copy and complete.



$$\frac{1}{2} = \frac{\blacksquare}{4}$$

$$\frac{2}{5} = \frac{\blacksquare}{10}$$

$$\frac{2}{3} = \frac{\blacksquare}{6}$$

Copy and write  $<$  or  $>$  in place of  $\blacksquare$ .

43.  $\frac{3}{10} \blacksquare \frac{1}{10}$

44.  $\frac{4}{5} \blacksquare \frac{5}{5}$

45.  $\frac{1}{5} \blacksquare \frac{2}{5}$

46.  $\frac{7}{8} \blacksquare \frac{1}{8}$

Write as a decimal.

47.  $\frac{6}{10}$

48.  $\frac{19}{10}$

49.  $\frac{10}{10}$

50.  $\frac{34}{10}$

Copy and complete.

51. 40 cm =  $\blacksquare$  dm

52. 7 dm =  $\blacksquare$  m

Add or subtract.

53. 
$$\begin{array}{r} 3.1 \\ + 5.6 \\ \hline \end{array}$$

54. 
$$\begin{array}{r} 7.8 \\ - 2.5 \\ \hline \end{array}$$

55. 
$$\begin{array}{r} 37.4 \\ + 11.8 \\ \hline \end{array}$$

56. 
$$\begin{array}{r} 43.3 \\ - 12.5 \\ \hline \end{array}$$

57. 
$$\begin{array}{r} 437.5 \\ + 29.6 \\ \hline \end{array}$$

58. 
$$\begin{array}{r} 858.1 \\ - 69.4 \\ \hline \end{array}$$

59. 
$$\begin{array}{r} 460.0 \\ - 181.2 \\ \hline \end{array}$$

60. 
$$\begin{array}{r} 3097.8 \\ + 1456.2 \\ \hline \end{array}$$



# Cumulative Test

## UNITS 8-10

Compute.

1.  $7 \times (4 + 5)$

2.  $5 \times (5 + 5)$

3.  $2 \times (20 + 9)$

Multiply.

4. 
$$\begin{array}{r} 24 \\ \times 6 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 40 \\ \times 3 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 67 \\ \times 2 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 84 \\ \times 5 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 51 \\ \times 9 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 26 \\ \times 8 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 32 \\ \times 6 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 85 \\ \times 8 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 124 \\ \times 2 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 351 \\ \times 8 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 406 \\ \times 9 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 518 \\ \times 4 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 300 \\ \times 5 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 256 \\ \times 3 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 527 \\ \times 6 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 814 \\ \times 7 \\ \hline \end{array}$$

20.  $2 \times 9 \times 5$

21.  $10 \times 4 \times 6$

22.  $8 \times 3 \times 7$

Divide.

23.  $7 \overline{)35}$

24.  $4 \overline{)32}$

25.  $6 \overline{)38}$

26.  $3 \overline{)29}$

27.  $9 \overline{)39}$

28.  $5 \overline{)50}$

29.  $6 \overline{)480}$

30.  $9 \overline{)540}$

31.  $4 \overline{)84}$

32.  $3 \overline{)39}$

33.  $6 \overline{)66}$

34.  $2 \overline{)36}$

35.  $5 \overline{)70}$

36.  $3 \overline{)219}$

37.  $7 \overline{)637}$

38.  $5 \overline{)425}$

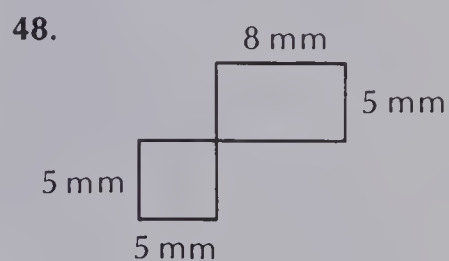
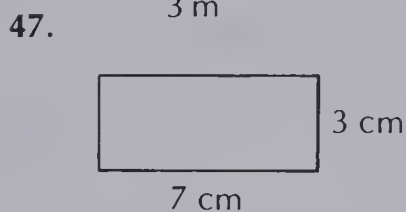
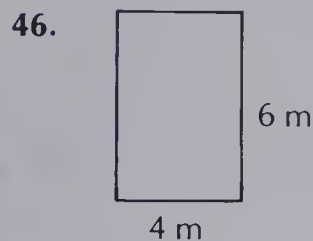
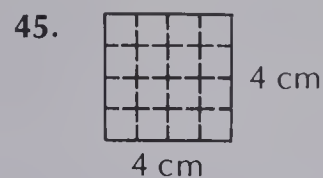
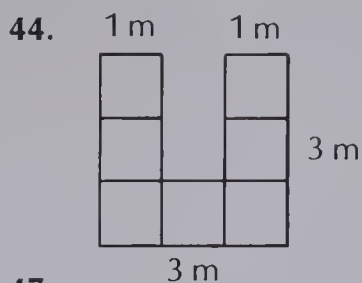
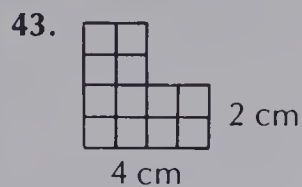
39.  $4 \overline{)348}$

40.  $7 \overline{)455}$

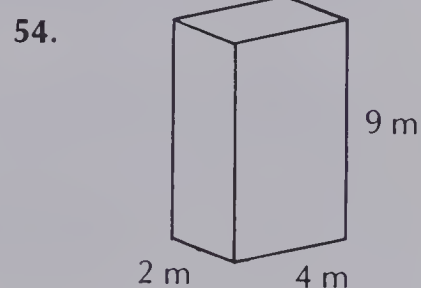
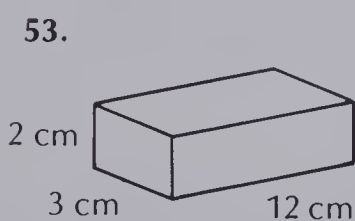
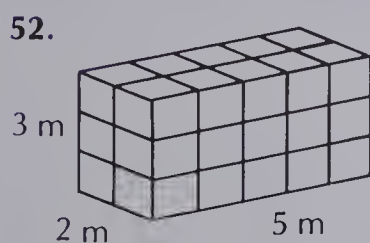
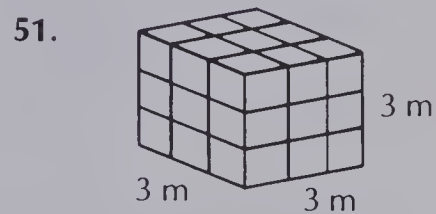
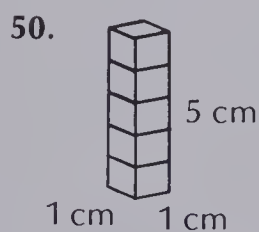
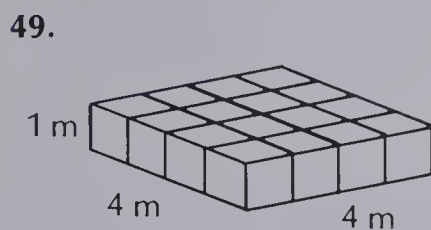
41.  $4 \overline{)107}$

42.  $8 \overline{)607}$

Find the area.



Find the volume.



Find the average.

55. 29, 16, 42, 25

56. 10, 15, 13, 8, 11, 9

Copy and complete the table.

57.

3	6	9	12	
5¢	10¢			30¢

What time is it on the 24 hour clock?

58. 9:15 A.M.

59. 2:00 P.M.

60. noon

61. 6:30 P.M.

# Cumulative Test

## UNITS 11-14

Multiply.

1.  $\begin{array}{r} 16 \\ \times 50 \\ \hline \end{array}$

2.  $\begin{array}{r} 51 \\ \times 20 \\ \hline \end{array}$

3.  $\begin{array}{r} 32 \\ \times 67 \\ \hline \end{array}$

4.  $\begin{array}{r} 96 \\ \times 13 \\ \hline \end{array}$

5.  $\begin{array}{r} 27 \\ \times 35 \\ \hline \end{array}$

6.  $\begin{array}{r} 481 \\ \times 70 \\ \hline \end{array}$

7.  $\begin{array}{r} 642 \\ \times 40 \\ \hline \end{array}$

8.  $\begin{array}{r} 176 \\ \times 34 \\ \hline \end{array}$

9.  $\begin{array}{r} 936 \\ \times 71 \\ \hline \end{array}$

10.  $\begin{array}{r} 752 \\ \times 68 \\ \hline \end{array}$

Divide.

11.  $2 \overline{)486}$

12.  $5 \overline{)550}$

13.  $3 \overline{)936}$

14.  $6 \overline{)672}$

15.  $3 \overline{)651}$

16.  $4 \overline{)472}$

17.  $6 \overline{)726}$

18.  $2 \overline{)354}$

19.  $4 \overline{)536}$

20.  $5 \overline{)617}$

21.  $7 \overline{)849}$

22.  $8 \overline{)915}$

23.  $8 \overline{)852}$

24.  $4 \overline{)824}$

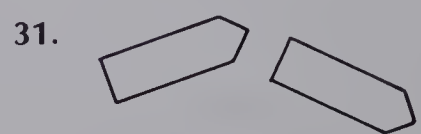
25.  $6 \overline{)615}$

Match the name of the solid.



- A. cube
- B. sphere
- C. prism
- D. pyramid

Are the figures congruent?



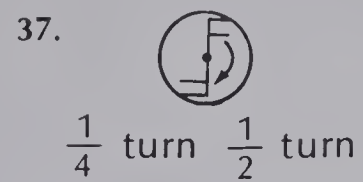
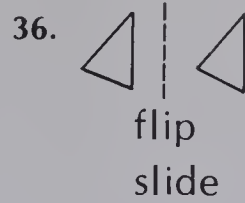
Match the name of the figure.



- A. square
- B. rectangle
- C. hexagon
- D. pentagon



Choose the correct answer below.




38. How many books did Janine read?

39. How many books did all three children read?

Library Books Read

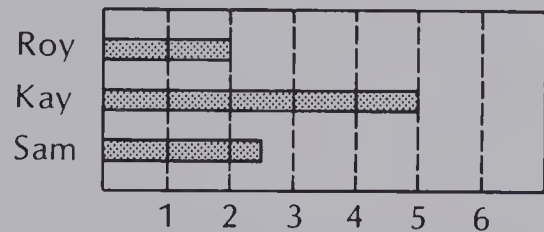
Jerry	
Janine	
Jason	

Each  represents 2 books

40. Who collected the most litter?

41. How many bags of litter did Roy collect?

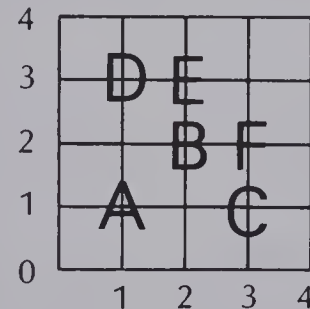
Bags of Litter Collected



42. What letter is at (1,1)?

43. What letter is at (3,2)?

44. Slide A right 2, up 1. Where will it be?



Write as a decimal.

45.  $\frac{36}{100}$

46. eighty-eight hundredths

47.  $\frac{1}{100}$

48. ten and seven hundredths

Add or subtract.

49. 
$$\begin{array}{r} 3.67 \\ + 4.76 \\ \hline \end{array}$$

50. 
$$\begin{array}{r} 6.09 \\ - 4.52 \\ \hline \end{array}$$

51. 
$$\begin{array}{r} 45.68 \\ + 50.79 \\ \hline \end{array}$$

52. 
$$\begin{array}{r} 63.24 \\ + 47.96 \\ \hline \end{array}$$

53. 
$$\begin{array}{r} 24.26 \\ + 4.98 \\ \hline \end{array}$$

54. 
$$\begin{array}{r} 50.00 \\ - 9.34 \\ \hline \end{array}$$

55. 
$$\begin{array}{r} 312.78 \\ + 403.65 \\ \hline \end{array}$$

56. 
$$\begin{array}{r} 600.21 \\ - 355.47 \\ \hline \end{array}$$

57.  $\frac{1}{4} + \frac{2}{4}$

58.  $\frac{4}{5} - \frac{1}{5}$

59.  $\frac{3}{8} + \frac{2}{8}$

60.  $\frac{3}{10} - \frac{2}{10}$

Add.

## Addition

$$\begin{array}{r} 1. \quad 8 \\ + 0 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 9 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 6 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 3 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 8 \\ + 9 \\ \hline \end{array}$$

$$6. \quad 9 + 7$$

$$7. \quad 3 + 8$$

$$8. \quad 4 + 5$$

$$9. \quad 6 + 8$$

$$10. \quad 7 + 9$$

$$\begin{array}{r} 11. \quad 30 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 74 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 58 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 56 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 9 \\ + 36 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 36 \\ + 51 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 46 \\ + 27 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 62 \\ + 24 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 58 \\ + 33 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 74 \\ + 36 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 4 \\ 2 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 8 \\ 3 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 24 \\ 14 \\ + 41 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 16 \\ 53 \\ + 22 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad 356 \\ 213 \\ + 194 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 416 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 607 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 86 \\ + 254 \\ \hline \end{array}$$

$$\begin{array}{r} 29. \quad 846 \\ + 57 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 65 \\ + 238 \\ \hline \end{array}$$

$$\begin{array}{r} 31. \quad 407 \\ + 305 \\ \hline \end{array}$$

$$\begin{array}{r} 32. \quad 174 \\ + 237 \\ \hline \end{array}$$

$$\begin{array}{r} 33. \quad 335 \\ + 176 \\ \hline \end{array}$$

$$\begin{array}{r} 34. \quad 218 \\ + 362 \\ \hline \end{array}$$

$$\begin{array}{r} 35. \quad 699 \\ + 105 \\ \hline \end{array}$$

$$\begin{array}{r} 36. \quad 3857 \\ + 153 \\ \hline \end{array}$$

$$\begin{array}{r} 37. \quad 643 \\ + 1228 \\ \hline \end{array}$$

$$\begin{array}{r} 38. \quad 574 \\ + 3268 \\ \hline \end{array}$$

$$\begin{array}{r} 39. \quad 4369 \\ + 138 \\ \hline \end{array}$$

$$\begin{array}{r} 40. \quad 507 \\ + 4197 \\ \hline \end{array}$$

$$\begin{array}{r} 41. \quad 3594 \\ + 5609 \\ \hline \end{array}$$

$$\begin{array}{r} 42. \quad 2788 \\ + 2585 \\ \hline \end{array}$$

$$\begin{array}{r} 43. \quad 6487 \\ + 1036 \\ \hline \end{array}$$

$$\begin{array}{r} 44. \quad 3296 \\ + 5917 \\ \hline \end{array}$$

$$\begin{array}{r} 45. \quad 3897 \\ + 5984 \\ \hline \end{array}$$

$$\begin{array}{r} 46. \quad 0.4 \\ + 0.3 \\ \hline \end{array}$$

$$\begin{array}{r} 47. \quad 0.8 \\ + 0.5 \\ \hline \end{array}$$

$$\begin{array}{r} 48. \quad 6.9 \\ + 4.7 \\ \hline \end{array}$$

$$\begin{array}{r} 49. \quad 14.3 \\ + 8.9 \\ \hline \end{array}$$

$$\begin{array}{r} 50. \quad 97.32 \\ + 187.67 \\ \hline \end{array}$$

$$51. \quad 0.9 + 0.7$$

$$52. \quad 41.8 + 2.7$$

$$53. \quad 189.4 + 8.5$$

# Subtraction

Subtract.

$$\begin{array}{r} 1. \quad 18 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 14 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 12 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 11 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 16 \\ - 8 \\ \hline \end{array}$$

$$6. \quad 14 - 9$$

$$7. \quad 3 - 0$$

$$8. \quad 8 - 4$$

$$9. \quad 11 - 7$$

$$10. \quad 15 - 8$$

$$\begin{array}{r} 11. \quad 85 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 25 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 56 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 30 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 43 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 74 \\ - 56 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 81 \\ - 53 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 62 \\ - 15 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 45 \\ - 27 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 93 \\ - 48 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 419 \\ - 72 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 364 \\ - 57 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 609 \\ - 40 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 170 \\ - 80 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad 579 \\ - 93 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 571 \\ - 93 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 451 \\ - 86 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 425 \\ - 73 \\ \hline \end{array}$$

$$\begin{array}{r} 29. \quad 312 \\ - 74 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 283 \\ - 91 \\ \hline \end{array}$$

$$\begin{array}{r} 31. \quad 835 \\ - 486 \\ \hline \end{array}$$

$$\begin{array}{r} 32. \quad 411 \\ - 223 \\ \hline \end{array}$$

$$\begin{array}{r} 33. \quad 640 \\ - 596 \\ \hline \end{array}$$

$$\begin{array}{r} 34. \quad 454 \\ - 379 \\ \hline \end{array}$$

$$\begin{array}{r} 35. \quad 800 \\ - 241 \\ \hline \end{array}$$

$$\begin{array}{r} 36. \quad 5315 \\ - 428 \\ \hline \end{array}$$

$$\begin{array}{r} 37. \quad 3614 \\ - 526 \\ \hline \end{array}$$

$$\begin{array}{r} 38. \quad 8162 \\ - 695 \\ \hline \end{array}$$

$$\begin{array}{r} 39. \quad 4112 \\ - 359 \\ \hline \end{array}$$

$$\begin{array}{r} 40. \quad 3000 \\ - 259 \\ \hline \end{array}$$

$$\begin{array}{r} 41. \quad 3465 \\ - 2877 \\ \hline \end{array}$$

$$\begin{array}{r} 42. \quad 3240 \\ - 2951 \\ \hline \end{array}$$

$$\begin{array}{r} 43. \quad 8642 \\ - 3865 \\ \hline \end{array}$$

$$\begin{array}{r} 44. \quad 7420 \\ - 4159 \\ \hline \end{array}$$

$$\begin{array}{r} 45. \quad 8000 \\ - 5362 \\ \hline \end{array}$$

$$\begin{array}{r} 46. \quad 0.7 \\ - 0.2 \\ \hline \end{array}$$

$$\begin{array}{r} 47. \quad 5.8 \\ - 3.2 \\ \hline \end{array}$$

$$\begin{array}{r} 48. \quad 9.1 \\ - 6.2 \\ \hline \end{array}$$

$$\begin{array}{r} 49. \quad 47.3 \\ - 8.6 \\ \hline \end{array}$$

$$\begin{array}{r} 50. \quad 931.6 \\ - 42.7 \\ \hline \end{array}$$



# Multiplication

Multiply.

1. 
$$\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 4 \\ \times 0 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 10 \\ \times 3 \\ \hline \end{array}$$

6.  $6 \times 1$

7.  $8 \times 6$

8.  $9 \times 7$

9.  $3 \times 0$

10.  $10 \times 1$

11. 
$$\begin{array}{r} 60 \\ \times 9 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 90 \\ \times 5 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 70 \\ \times 8 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 30 \\ \times 6 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 50 \\ \times 5 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 43 \\ \times 2 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 21 \\ \times 4 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 81 \\ \times 5 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 71 \\ \times 6 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 53 \\ \times 3 \\ \hline \end{array}$$

21. 
$$\begin{array}{r} 36 \\ \times 8 \\ \hline \end{array}$$

22. 
$$\begin{array}{r} 95 \\ \times 6 \\ \hline \end{array}$$

23. 
$$\begin{array}{r} 72 \\ \times 5 \\ \hline \end{array}$$

24. 
$$\begin{array}{r} 94 \\ \times 3 \\ \hline \end{array}$$

25. 
$$\begin{array}{r} 58 \\ \times 7 \\ \hline \end{array}$$

26. 
$$\begin{array}{r} 300 \\ \times 7 \\ \hline \end{array}$$

27. 
$$\begin{array}{r} 600 \\ \times 5 \\ \hline \end{array}$$

28. 
$$\begin{array}{r} 800 \\ \times 9 \\ \hline \end{array}$$

29. 
$$\begin{array}{r} 406 \\ \times 4 \\ \hline \end{array}$$

30. 
$$\begin{array}{r} 715 \\ \times 7 \\ \hline \end{array}$$

31. 
$$\begin{array}{r} 629 \\ \times 7 \\ \hline \end{array}$$

32. 
$$\begin{array}{r} 381 \\ \times 9 \\ \hline \end{array}$$

33. 
$$\begin{array}{r} 654 \\ \times 8 \\ \hline \end{array}$$

34. 
$$\begin{array}{r} 955 \\ \times 2 \\ \hline \end{array}$$

35. 
$$\begin{array}{r} 874 \\ \times 4 \\ \hline \end{array}$$

36.  $2 \times 4 \times 5$

37.  $9 \times 7 \times 0$

38.  $8 \times 6 \times 1$

39. 
$$\begin{array}{r} 37 \\ \times 20 \\ \hline \end{array}$$

40. 
$$\begin{array}{r} 95 \\ \times 10 \\ \hline \end{array}$$

41. 
$$\begin{array}{r} 53 \\ \times 70 \\ \hline \end{array}$$

42. 
$$\begin{array}{r} 63 \\ \times 21 \\ \hline \end{array}$$

43. 
$$\begin{array}{r} 84 \\ \times 35 \\ \hline \end{array}$$

44. 
$$\begin{array}{r} 45 \\ \times 92 \\ \hline \end{array}$$

45. 
$$\begin{array}{r} 16 \\ \times 37 \\ \hline \end{array}$$

46. 
$$\begin{array}{r} 345 \\ \times 30 \\ \hline \end{array}$$

47. 
$$\begin{array}{r} 579 \\ \times 20 \\ \hline \end{array}$$

48. 
$$\begin{array}{r} 906 \\ \times 50 \\ \hline \end{array}$$

49. 
$$\begin{array}{r} 820 \\ \times 90 \\ \hline \end{array}$$

50. 
$$\begin{array}{r} 416 \\ \times 38 \\ \hline \end{array}$$

51. 
$$\begin{array}{r} 293 \\ \times 54 \\ \hline \end{array}$$

52. 
$$\begin{array}{r} 704 \\ \times 25 \\ \hline \end{array}$$

53. 
$$\begin{array}{r} 352 \\ \times 73 \\ \hline \end{array}$$

# Division

Divide.

- |                         |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 1. $9 \overline{)81}$   | 2. $7 \overline{)56}$   | 3. $3 \overline{)21}$   | 4. $5 \overline{)25}$   | 5. $4 \overline{)32}$   |
| 6. $72 \div 8$          | 7. $6 \div 1$           | 8. $0 \div 3$           | 9. $30 \div 10$         | 10. $54 \div 6$         |
| 11. $8 \overline{)35}$  | 12. $6 \overline{)22}$  | 13. $4 \overline{)36}$  | 14. $9 \overline{)58}$  | 15. $5 \overline{)44}$  |
| 16. $5 \overline{)450}$ | 17. $7 \overline{)560}$ | 18. $9 \overline{)360}$ | 19. $3 \overline{)270}$ | 20. $2 \overline{)160}$ |
| 21. $6 \overline{)60}$  | 22. $4 \overline{)48}$  | 23. $3 \overline{)63}$  | 24. $5 \overline{)55}$  | 25. $2 \overline{)86}$  |
| 26. $7 \overline{)84}$  | 27. $6 \overline{)90}$  | 28. $3 \overline{)45}$  | 29. $5 \overline{)85}$  | 30. $7 \overline{)91}$  |
| 31. $8 \overline{)92}$  | 32. $3 \overline{)71}$  | 33. $6 \overline{)74}$  | 34. $5 \overline{)83}$  | 35. $4 \overline{)70}$  |

Divide.

- |                         |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 36. $9 \overline{)639}$ | 37. $7 \overline{)350}$ | 38. $5 \overline{)200}$ | 39. $6 \overline{)366}$ | 40. $3 \overline{)189}$ |
| 41. $2 \overline{)138}$ | 42. $8 \overline{)496}$ | 43. $5 \overline{)420}$ | 44. $9 \overline{)711}$ | 45. $4 \overline{)392}$ |
| 46. $6 \overline{)537}$ | 47. $3 \overline{)256}$ | 48. $5 \overline{)408}$ | 49. $7 \overline{)591}$ | 50. $8 \overline{)470}$ |
| 51. $9 \overline{)990}$ | 52. $2 \overline{)614}$ | 53. $4 \overline{)848}$ | 54. $3 \overline{)693}$ | 55. $2 \overline{)826}$ |
| 56. $5 \overline{)580}$ | 57. $4 \overline{)856}$ | 58. $2 \overline{)492}$ | 59. $3 \overline{)954}$ | 60. $6 \overline{)690}$ |
| 61. $7 \overline{)861}$ | 62. $6 \overline{)834}$ | 63. $3 \overline{)789}$ | 64. $5 \overline{)920}$ | 65. $2 \overline{)758}$ |
| 66. $4 \overline{)631}$ | 67. $9 \overline{)992}$ | 68. $2 \overline{)753}$ | 69. $3 \overline{)867}$ | 70. $6 \overline{)790}$ |
| 71. $9 \overline{)936}$ | 72. $6 \overline{)600}$ | 73. $4 \overline{)432}$ | 74. $5 \overline{)550}$ | 75. $7 \overline{)700}$ |

# Measurement

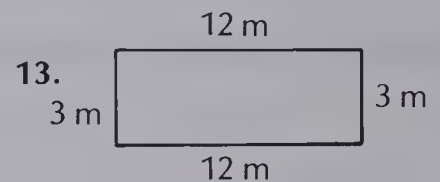
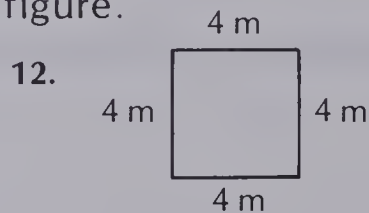
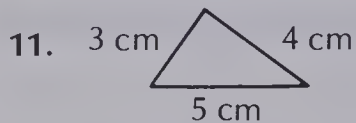
Use a ruler to measure the line segment.

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_

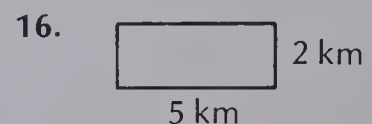
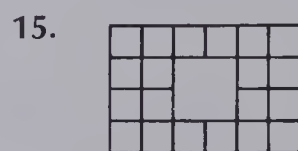
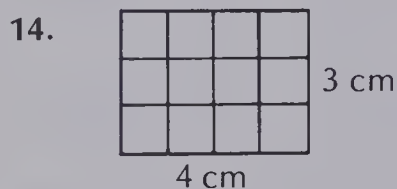
What unit would you use to measure each?

5. The width of a dime  
m mm km
6. The mass of a car  
g kg mL
7. The length of your foot  
mm cm m
8. The amount of juice in an orange  
mL mm L
9. The mass of an apple  
g km kg
10. The amount of water in a tub  
mL cm L

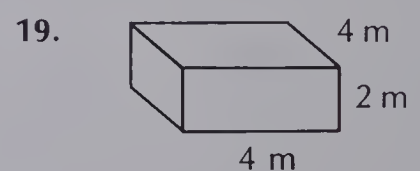
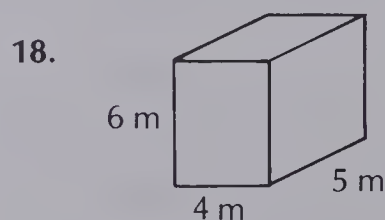
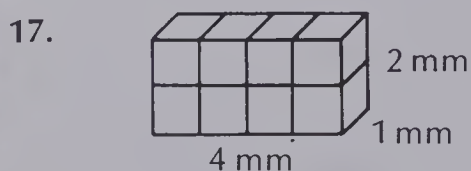
Find the perimeter of each figure.



What is the area?



Find the volume.







What time is it on the 24 hour clock? Match the best answer.

20. Wake up in morning A. 12:00
21. School begins B. 7:00
22. School is over C. 18:00
23. Supper time D. 15:30
- E. 9:00







# Geometry



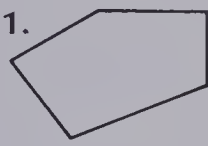

Is the object symmetrical?

1. 
2. 
3. 
4. 

What solid does each object suggest?

5. 
6. 
7. 
8. 


How many angles are there in each figure?





9. 
10. 
11. 
12. 





Use the letters **H**, **T**, and **X**.




13. Which letter has parallel lines?
14. Which letter has perpendicular lines?
15. Which letters have intersecting lines?

Write the letter of the figure that is congruent to the first figure.

16. 

A. 	B. 	C. 
--	--	--
17. 

A. 	B. 	C. 
--	---	--
18. 







A. 	B. 	C. 
--	--	--

Write the name of the figure that has:

19. 3 sides
20. 5 sides
21. 8 sides
22. 4 equal sides.

Match the picture on the right.

23. Which picture suggests a flip?
24. Which picture suggests a slide?

- |    |  |
|----|--|
| A. |   |
| B. |   |
| C. |   |

# INDEX

## Addition

- and multiplication, 94, 168
- estimating in, 62
- facts, 21-25
- four-place, 52
- of decimals, 156, 316-319
- of fractions, 324
- three addends, 30
- three-place, 36, 46-51
- two-place, 26-31, 45-47
- with money, 21, 82

Angles, 264

Area, 214-217

Average, 222

Bar graphs, 292-295

Calendar, 15

Capacity, 88

Celsius, 40

Centimetre, 69, 74

Centre of a circle, 278

Charts, 286

Circle, 278

Circumference, 278

Cone, 262

Congruent, 268, 271, 273, 277

Cube, 262

Cubic unit, 218

Cumulative tests, 330-337

Curved surface, 262

Cylinder, 262

Day, 228

Decimals, 150-159, 308-328

Decimetre, 154

Denominator, 142

## Division

- by ones, 124
- by tens, 132

- estimating in, 190
- facts, 118-135, 190
- meanings of, 118
- using a multiplication table, 126, 134
- with remainders, 192, 200, 206
- with tens as quotients, 194
- with three-place quotients, 246-255
- with two-place quotients, 194-207
- zero in, 124, 254

Dollars and cents, see Money

End point, 266

## Enrichment

- calculator, 39, 121, 133, 151, 171, 191, 253, 287, 317
- charts and tables, 129
- codes, 143, 299
- comparison, 3, 153
- consumer problems, 71, 79, 105, 167, 179, 239, 251
- division, 193, 195, 199, 201, 203, 205, 207, 247
- Egyptian numerals, 11
- fractions, 145, 147, 325
- games and puzzles, 3, 5, 23, 25, 27, 63, 107, 119, 135, 249, 293
- geometry, 37, 263, 265, 269, 271, 277, 279, 297, 303, 327
- graphs, 289, 291, 301
- magic squares, 33, 157, 159

maps, 227

measurement, 73, 87, 155, 215, 217, 219, 243, 322

money, 81, 199

multiplication, 95, 97, 99, 109, 169, 175, 241

numbers, 7, 13, 15, 49, 51, 53, 59, 61, 177, 205, 247, 255, 311, 313, 315, 317

paper calculators, 223

patterns, 25, 57

ratio, 225

riddles, 207

shortcut, 31

time, 229, 231

Estimation, 62, 69, 75, 184, 190, 217

Expanded form, 4-7, 10

Face, 262

Factors, 94

Flips, 276

## Fractions

- addition of, 324
- comparing, 146
- decimal, 326
- denominator, 142
- equivalent, 144
- numerator, 142
- part of a set, 148
- part of a whole, 142
- subtraction of, 324

Geometry, 37, 141, 260-282, 297, 302-303, 307, 327

See also Measurement and names of geometric shapes

Gram, 78

## Graph

- bar, 292-295
- pictograph, 288-291
- of a point, 296-303

Half turn, 278

Hexagon, 272

Hour, 228

Hundreds, 4

Hundredth, 310

Intersecting lines, 266

Kilogram, 78

Kilometre, 72, 74

Length, 69-77

## Lines

- at right angles, 266
- intersecting, 266
- of symmetry, 261
- parallel, 266

Litre, 88

Making change, 86

Maps, 226, 298

Mass, 78

## Measurement

- area, 214-217
- averages, 222
- capacity, 88
- circumference, 278
- estimation, 69, 75, 217
- decimals, 322
- length, 69-77
- maps, 226
- mass, 78
- perimeter, 76
- scale, 226
- temperature, 40
- time, 228-231
- volume, 218-221

Metre, 69, 74

Millilitre, 88

Millimetre, 70, 74

Minute, 228

## Money

- addition and subtraction with, 82
- cent sign, 8, 80
- dollar sign and point, 8, 80
- making change, 86
- rounding, 81

Month, 228

## Multiplication

- and addition, 94, 168
- by hundreds, 174
- by one, 100
- by tens, 108, 166, 238, 242
- facts, 93-111, 165, 213
- meaning of, 94
- table, 102, 110
- three factors, 180
- three-place, 174-179, 242-245
- two-digit multipliers, 238-245
- two-place, 170-173, 238-241
- zero in, 100

## Numbers and numerals

- comparing, 2-7, 11
- expanded form, 4-7, 10
- in order, 1, 4-7, 10
- rounding, 12
- standard form, 4-7, 10
- See also* Decimals and Fractions

Numerator, 142

Octagon, 272

Order of numbers to millions, 1, 4-7, 10

Ordered pair, 300

Ordinal number, 14

Parallel lines, 266

Pentagon, 272

Perimeter, 76

Perpendicular lines, 266

Pictograph, 288-291

Place value, 1-10, 150-153, 310-315

Point, 266

Point graph, 296-303

Polygons, 272

Prism, 262

## Problem Solving

- decide the operation, 38, 208
- extra information, 256
- four-step method, 64, 84, 112, 136, 160, 182, 320
- measurement, 84
- missing information, 232
- reading charts, 18, 286
- using diagrams, 304
- See also* Word Problems

Product, 94

Pyramid, 262

Quarter turn, 278

Quotient, 190

Ratio, 224

Rectangle, 268

Rectangular solid, 262

Regrouping tenths and hundredths, 314

Remainder, 192, 200, 206

Right angle, 264, 270

Roman numerals, 16

Rounding, 12, 62

Scale, 226

Seconds, 228

Segment, 266

Slide, 272, 302

Sphere, 262

Square, 268

Square unit, 214



Standard form, 4-7, 10

Subtraction

estimating in, 62

facts, 21-25

four-place, 60

of decimals, 158

of fractions, 324

three-place, 36, 56-59

two-place, 32-35, 54

with money, 21, 82

Surface area, 215

Symmetry, 141, 261, 269, 271,  
272, 277

Tables, 286

Temperature, 40

Tenth, 150-159

Tests, Cumulative, 330-337

Tests, Unit, 19, 42, 66, 90,  
114, 138, 162, 186, 210,  
234, 258, 282, 306

Time, 228-231

Triangle, 270

Turns, 280

Twenty-four hour clock, 230

Vertex, 262, 264

Volume, 218-221

Week, 228

Word problems involving

addition-subtraction,

23, 25, 27, 29, 31, 33,

35, 37-39, 42, 47, 49,

51, 53, 55, 57, 59, 61,

63-67, 157, 159-161,

208, 317, 319

charts, 18

comparison, 9, 18

decimals, 151, 157,

159-161, 317, 319-321

division, 119, 121, 123,

125, 127, 129, 131, 133,

135-138, 182, 191, 193,

195, 197, 199, 201, 203,

205, 207-210, 235, 237,

247, 249, 251, 253, 255

estimation, 63

fractions, 143, 145, 149

geometry, 263, 269, 271

graphs, 288-297

measurement, 40, 69,

71, 73, 75, 77, 79, 84,

89, 215, 217, 221, 223,

232, 259, 320

money, 9, 81, 83, 87, 199

multiplication, 93, 95,

97, 99, 101, 105, 107,

109, 112, 167, 169, 171,

173, 175, 177, 179,

181-183, 208, 211, 237,

239, 241, 243, 245

ordinal numbers, 15

ratio, 224

rounding, 13

time, 229, 231

See also Problem  
Solving

Year, 228

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